HITACHI

SERVICE MANUAL

NTSC | AP93 Chassis

PA | No. 0117

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R/C: CLU-615MP

CONTENTS

SAFETY PRECAUTIONS 3
SERVICING PRECAUTIONS 6
TECHNICAL CAUTIONS 10
SPECIFICATIONS 11
CIRCUIT PROTECTION 11
GENERAL INFORMATION 12
CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS 13
CAUTIONS WHEN CONNECTING/DISCONNECTING THE HV CONNECTOR 15
SERVICE ADJUSTMENTS 16
TROUBLESHOOTING 31
PROTECTION CIRCUIT BLOCK DIAGRAM 39
BASIC CIRCUIT DIAGRAM 41
PRINTED CIRCUIT BOARDS 56
BLOCK DIAGRAM 61
WIRING DIAGRAM 62
EXPLODED VIEW 65
REPLACEMENT PARTS LIST 66

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precaution" and "Product Safety Notices" in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the "Safety Precautions" and "Product Safety Notices" in this Service Manual.

*For continued x-radiation protection, replace picture tube with original type of Hitachi approved equivalent type.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

MAY 1999 HHEA-MANUFACTURING DIVISION

SAFETY NOTICE
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For continued X-Radiation protection, replace picture tube with original type or Hitachi approved equivalent type.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant
may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

This television receiver provides display of television closed captioning in accordance with section 15.119 of the FCC rules.

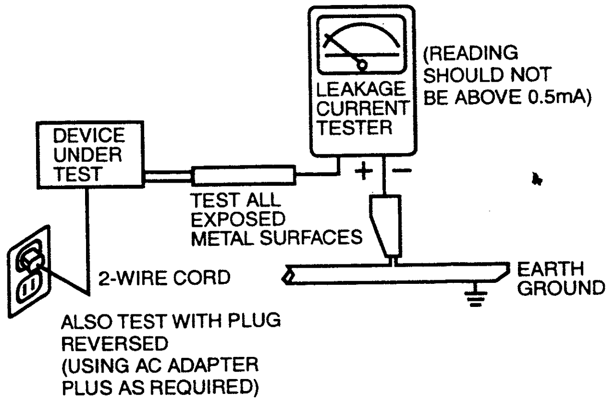
SAFETY PRECAUTIONS

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including but not limited to the following items.
   a. Be sure that no built-in protective devices are defective and/or have been deleted during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpaper, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to (1) spacing between the picture tube and cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. **Antenna Cold Check** – With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input, exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohms or greater than 5.2 megohms, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

   d. **Leakage Current Hot Check** – With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamps. Reverse the instrument power cord plug in the outlet and repeat test.


LEAKAGE CURRENT TESTER
(READING SHOULD NOT BE ABOVE 0.5mA)
DEVICE UNDER TEST
+
−
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
EARTH GROUND
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUS AS REQUIRED)

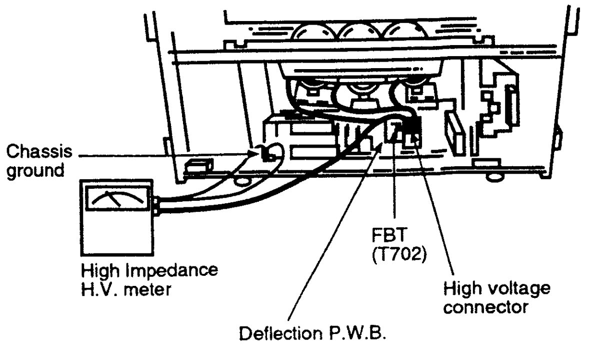
AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

   e. **High Voltage** – This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply will all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

   f. **Service Warning** – With maximum contrast, operating high voltage in this receiver is lower than **33.0 kV.** In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **33.0 kV.**
   To measure H.V. use a high impedance H.V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram.)

   Note: Turn power switch off without fail before the connection to the anode button is made.



g. **X-radiation – TUBE:** The primary source of X-radiation in this receiver is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X-radiation emissions.
For continued X-radiation protection, the replacement tube must be the same type as the original, Hitachi approved type.
When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage component.
Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

h. **X-radiation Shield –**
1. This receiver is provided with X-ray shield plates for protection against X-radiation. Do not remove X-ray shield plates A, B, C, or D shown in Fig. 1 unnecessarily, when troubleshooting and/or making test measurements.
2. To prevent X-radiation, after replacement of picture tube and lens, confirm these components to be fixed correctly to bracket and cabinet, and not to be taken off easily.

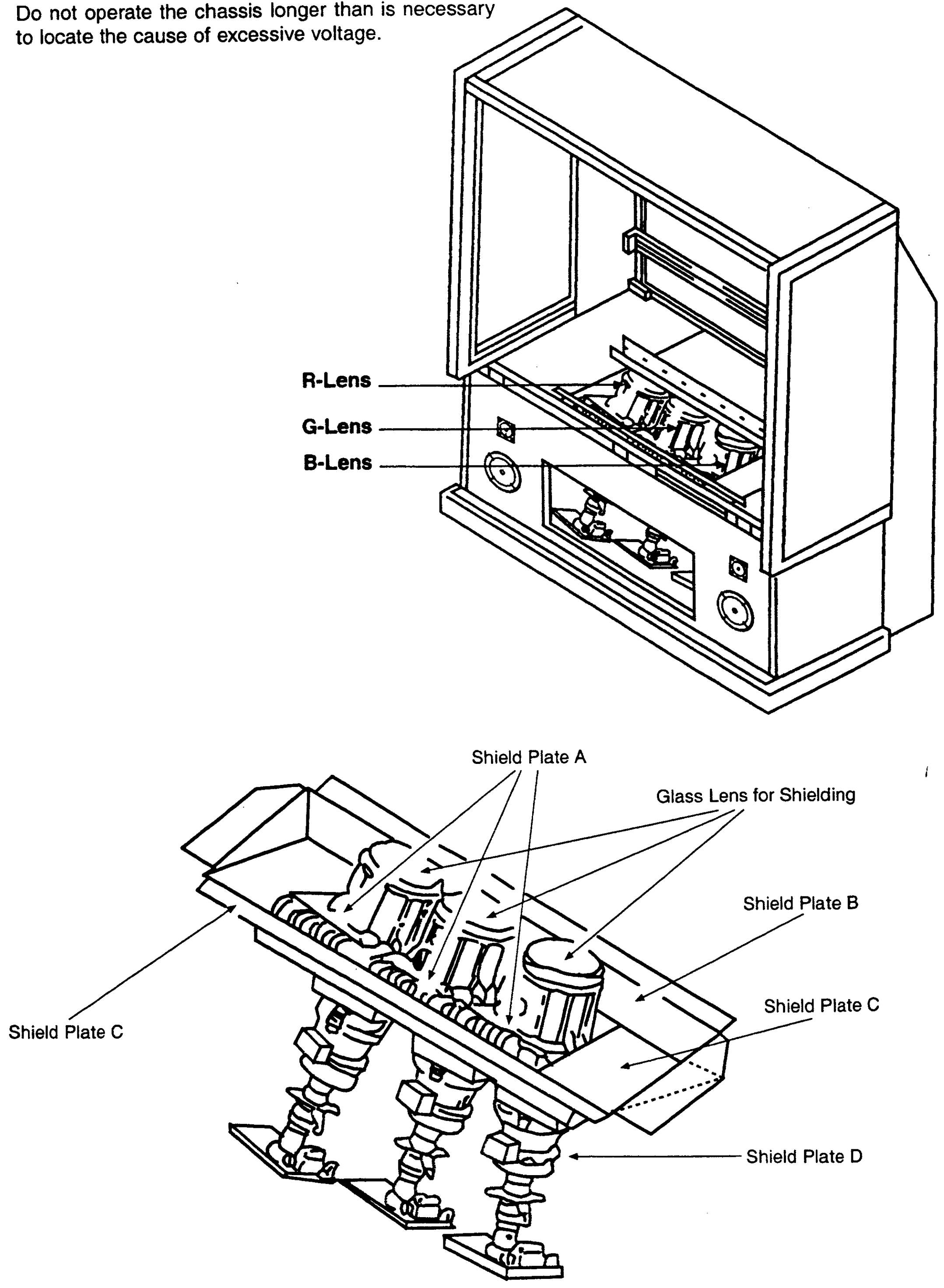


Fig. 1. Detailing X-radiation Shield

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** – Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions including but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connectors, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** – The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.

5. **Hot Chassis Warning – a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. Confirm that the AC power plug is inserted correctly with an AC voltmeter by measuring between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some TV receiver chassis normally have 85V AC (RMS) between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts – be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-plate, or frayed wiring. Do not change spacing between components and the printed circuit board. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **PRODUCT SAFETY NOTICE** – Many TV electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in Hitachi service data by shading on schematics and by a ⚠ in the parts list. Use of substitute replacement that does not have the same safety characteristics as the recommended replacement part in Hitachi service data parts list might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current Hitachi service literature. A subscription to, or additional copies of service literature may be obtained at a nominal charge from Hitachi.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
   CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

   d. Discharging the picture tube anode.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc." The H.V. Distribution Box has an internal 400MΩ resistor (bleeder resistor) connected from the high voltage to ground. After power is removed from the instrument the high voltage will discharge through the high voltage bleeder resistor. If the tubes have high voltage after power is removed, then the bleeder resistor is defective or the bleeder ground is disconnected.

3. Discharge the picture tube's anode at any of the R, G, or B outputs on the H.V. Distribution Box only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube high voltage distribution box R, G, or B output, using an insulated handle to avoid personal contact with high voltage.

4. Do not spray chemicals on or near this instrument or any of its assemblies.

5. Unless specified otherwise in these service data, clean electrical contracts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.

7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.

8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

9. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or desolder ES devices.

4. Use only can anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES device.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.

2. Use an appropriate gauge of resin-core solder composed of 60 parts tin/40 parts lead.

3. Keep the soldering iron tip clean and well-tinned.

4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

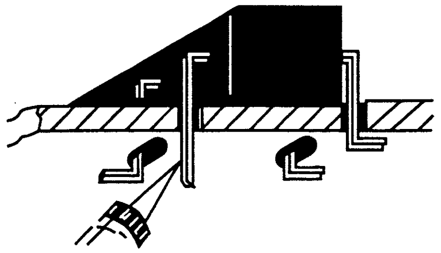
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Solding Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.

2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.

2. Carefully bend each IC lead against the circuit foil pad and solder it.

3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.

2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.

3. Bend into a "U" shape the replacement transistor leads.

4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacements

1. Heat and remove all solder from around the transistor leads.

2. Remove the heatsink mounting screw (if so equipped).

3. Carefully remove the transistor from the circuit board.

4. Insert new transistor in circuit board.

5. Solder each transistor lead, and clip off excess lead.

6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.

2. Bend the two remaining leads perpendicularly to the circuit board.

3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.

4. Securely crimp each connection and solder it.

5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

Fuses and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off," the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

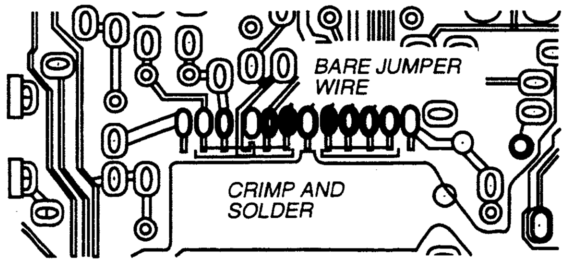
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



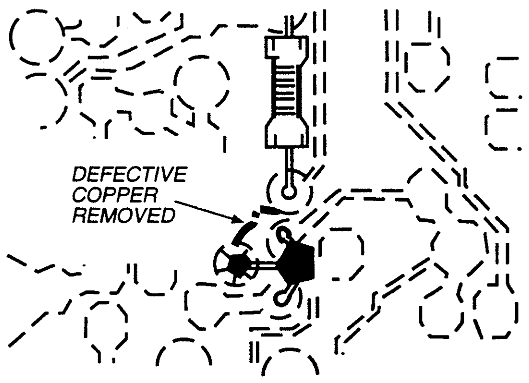
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.

2. The FS tuner must never be disconnected from the FS tuning control module while power is applied to the instrument.

3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used..

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6K resistor, 0 = 0 (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

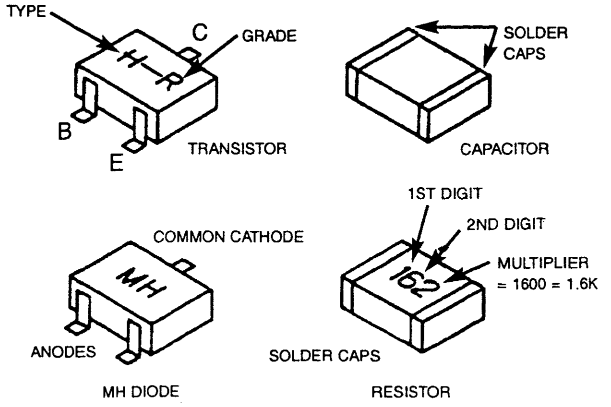
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal .

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

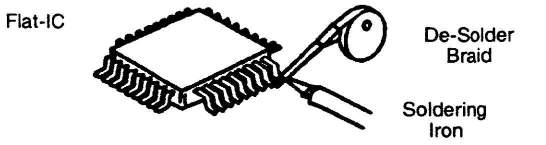
Chip Components



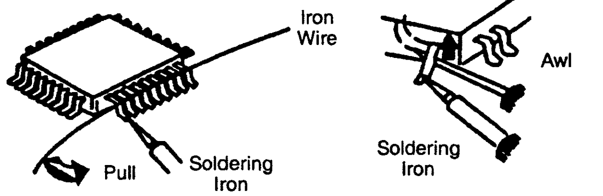
How to Replace Flat-IC —Required Tools—

- Soldering iron
- De-solder braids
- iron wire or small awl
- Magnifier

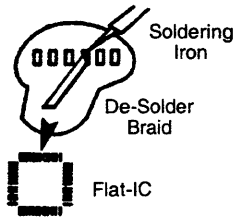
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



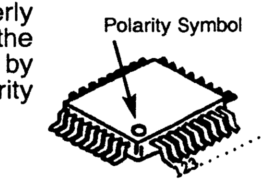
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



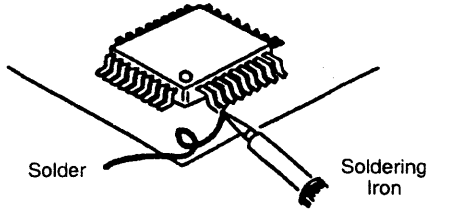
3. Remove the solder from all of the pads of the Flat-IC by using a de-solder braid.



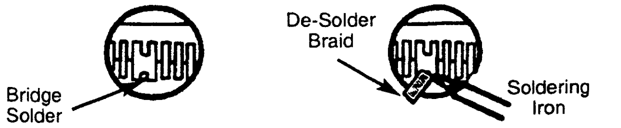
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



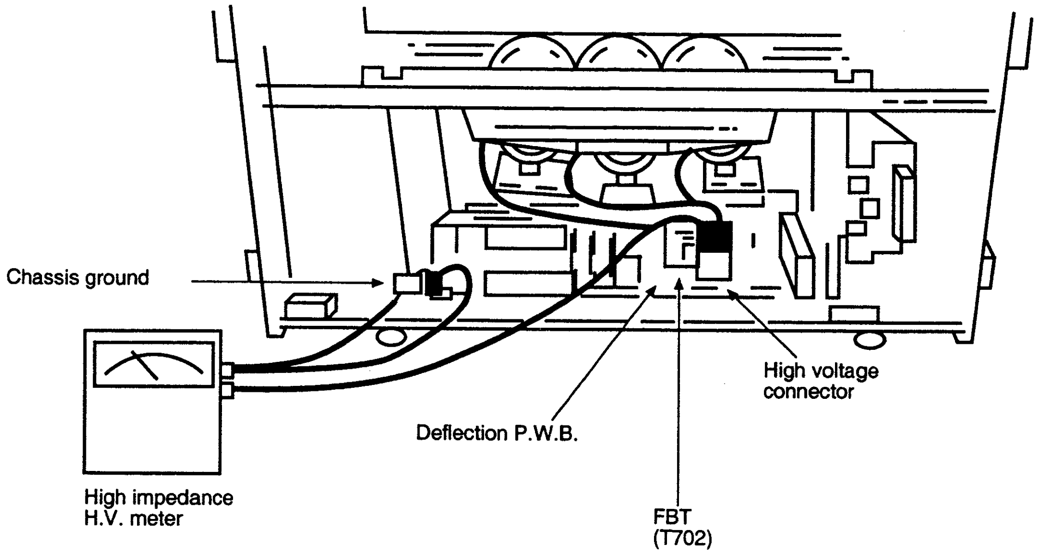
6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.

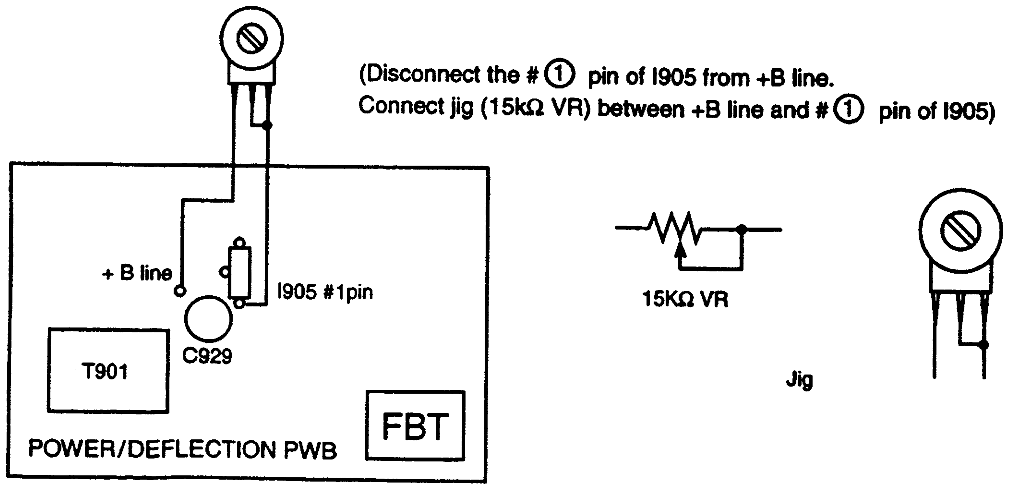


TECHNICAL CAUTIONS

High Voltage limiter circuit operation check.

1. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.
2. Set the AC input to 120V AC and turn on TV.
3. Confirm test pattern on CRT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.
4. When the limiter circuit is operating properly, High Voltage will be less than 36.5 kV at 0.6mA when TV shuts down.
5. Turn off set immediately after checking circuit operation.
6. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.





(Disconnect the # ① pin of I905 from +B line. Connect jig (15kΩ VR) between +B line and # ① pin of I905)

Fig. 2. Deflection/Power P.C.B.

SPECIFICATIONS

Model:	53SBX59B 61SBX59B
Cathode-Ray Tube:	R=P16LFM00 RFA G=P16LFM00 HLA B=P16LFM00 BMB
Power Input:	120 volts AC, 60 Hz
Power Consumption:	210 Watts - Maximum 161 Watts - Operating
Antenna Impedence:	75 Ohm Unbalanced VHF / UHF / CATV

Receiving Channel:

BAND	CH
VHF	2~13
UHF	14~69
EXT. Mid	(A-5)~(A-1), 4+
CATV Mid.	A~I
CATV Super	J~W
CATV Hyper	(W+1)~(W+28)

Intermediate Frequency:	Picture I-F Carrier 45.75 MHz Sound I-F Carrier 41.25 MHz Color Sub Carrier 42.17 MHz
Video Input:	1 Volt p-p, 75 Ohm 1 Volt p-p, 75 Ohm (Y) 0.7 Volt p-p, 75 Ohm, (Cb, Cr)
Video Output:	1 Volt p-p, 75 Ohm
Audio Input:	470 mVrms, 47 k Ohm
Stereo Audio Output:	470 mVrms, 1 k Ohm

Audio Output Power:

Front:	15 Watts per channel at 10% distortion, 8 Ohm impedence. Max. output - 18 Watts.
Rear:	7.5 Watts per channel at 10% distortion, 8 Ohm impedence. Max output - 10 Watts.
Center:	7.5 Watts per channel at 10% distortion, 8 Ohm impedence. Max output - 18 Watts

Anode Voltage	31.5 kV (Zero Beam Current)
Brightness:	53SBX59B - 240 cd/m^2 61SBX59B - 185 cd/m^2 (white screen)
Speakers:	2 Woofers - 5 inch (12 mm) round 2 Tweeters - 2 inch (5 mm) round 2 Center Speakers - 4 inch (10 mm) round

Dimension:

	53SBX59B	**61SBX59B**
Height (in.)	$55\frac{3}{4}$	$61\frac{1}{2}$
Width (in.)	46	$52\frac{1}{2}$
Depth (in.)	$24\frac{1}{4}$	29
Weight (lbs.)	200	320

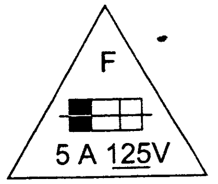
Circuit Board Assemblies:

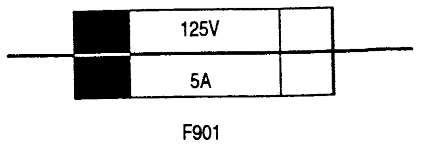
C.P.T. (B) P.W.B.
C.P.T. (G) P.W.B.
C.P.T. (R) P.W.B.
Signal P.W.B.
Signal Sub P.W.B.
Terminal P.W.B.
VM P.W.B.
Surround P.W.B.
Power/Deflection P.W.B.
Control P.W.B.
Sensor Distribution P.W.B.

CIRCUIT PROTECTION

CAUTION: Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operation fuse (to be replaced). Fuse ratings appear within the symbol.

Example:





"RISK OF FIRE - REPLACE FUSE AS MARKED"

The rating of fuse F901 is 5.0A - 125V.
Replace with the same type fuse for continued protection against fire.

GENERAL INFORMATION

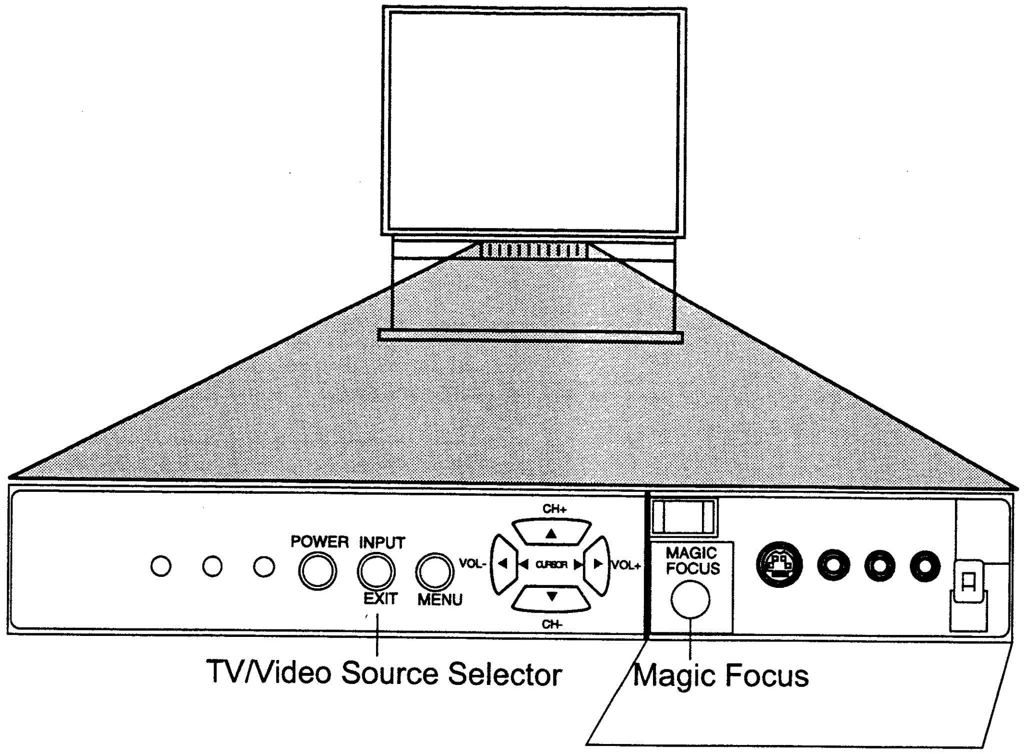

CH+
POWER
INPUT
EXIT
MENU
VOL-
CURSOR
VOL+
CH-
MAGIC FOCUS
TV/Video Source Selector
Magic Focus

Fig. 3. Control Panel

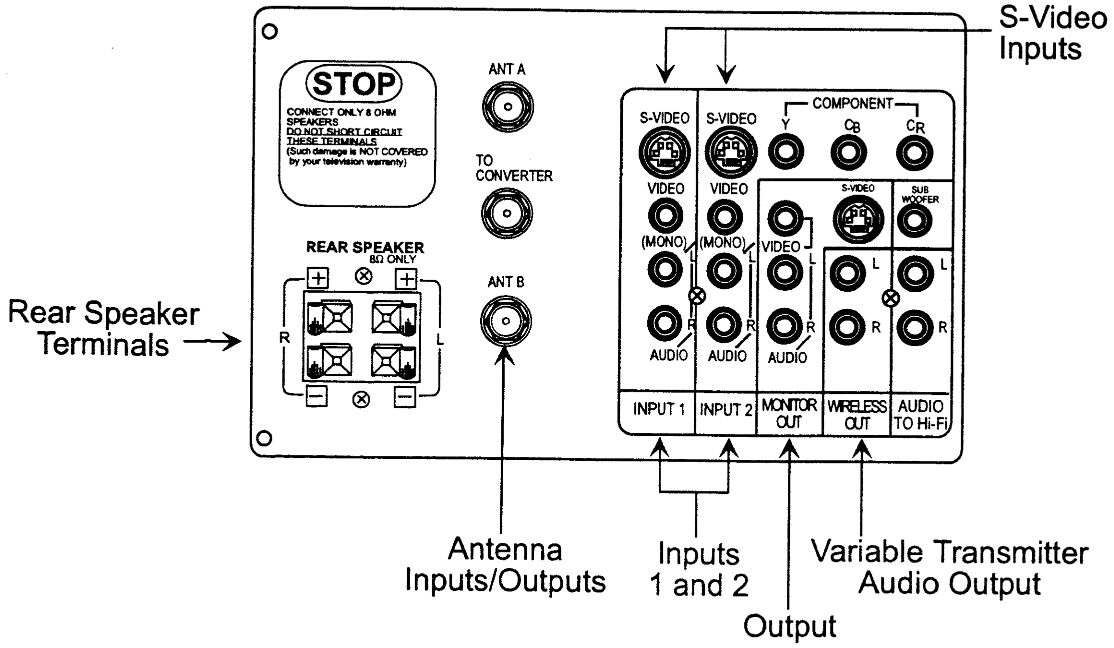
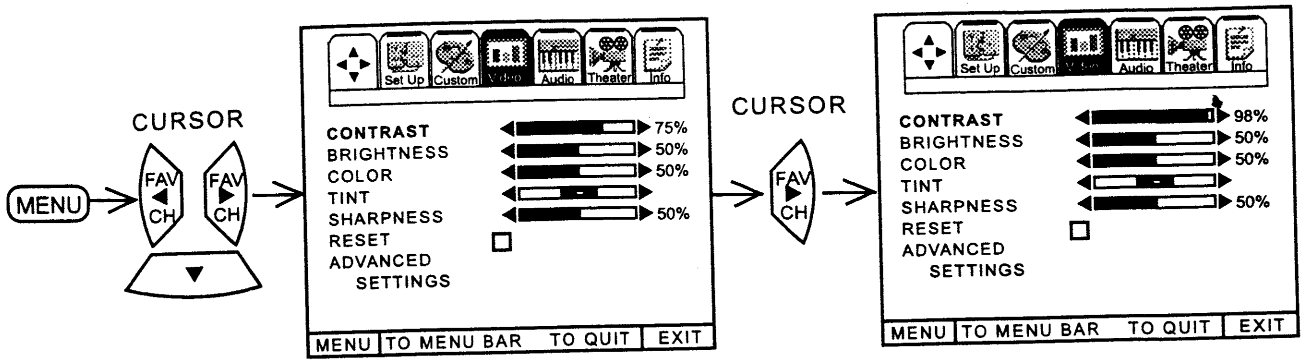

STOP
CONNECT ONLY 8 OHM SPEAKERS
DO NOT SHORT CIRCUIT THESE TERMINALS
(Such damage is NOT COVERED by your television warranty)
REAR SPEAKER
8Ω ONLY
R
L
ANT A
TO CONVERTER
ANT B
S-VIDEO
S-VIDEO
COMPONENT
Y
CB
CR
VIDEO
VIDEO
(MONO)
(MONO)
VIDEO
S-VIDEO
SUB WOOFER
L
R
AUDIO
AUDIO
AUDIO
INPUT 1
INPUT 2
MONITOR OUT
WIRELESS OUT
AUDIO TO Hi-Fi
S-Video Inputs
Rear Speaker Terminals
Antenna Inputs/Outputs
Inputs 1 and 2
Output
Variable Transmitter Audio Output

Fig. 4. Rear Connections Panel

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS

Select VIDEO to adjust picture settings and improve picture quality.

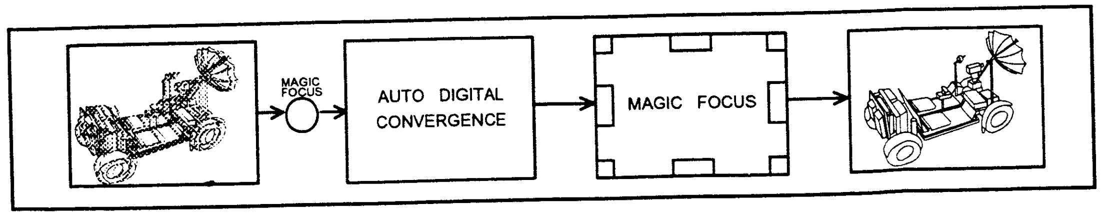

MENU
CURSOR
FAV CH
Set Up
Custom
Video
Audio
Theater
Info
CONTRAST 75%
BRIGHTNESS 50%
COLOR 50%
TINT
SHARPNESS 50%
RESET
ADVANCED SETTINGS
MENU TO MENU BAR
TO QUIT EXIT
CURSOR
CONTRAST 98%
BRIGHTNESS 50%
COLOR 50%
TINT
SHARPNESS 50%
RESET
ADVANCED SETTINGS
MENU TO MENU BAR
TO QUIT EXIT

Use the CURSOR ▲ or ▼ buttons to highlight the function to be adjusted.
Press the CURSOR ◀ or ▶ buttons to adjust the function.
Press EXIT to quit menu.

NOTE:
- If CONTRAST is selected, you are adjusting CONTRAST. The additional menu items BRIGHTNESS, COLOR, TINT, and SHARPNESS can be selected and adjusted in the same manner.
- Contrast and Brightness adjustments will affect only the main picture. These adjustments will not affect the sub-picture.

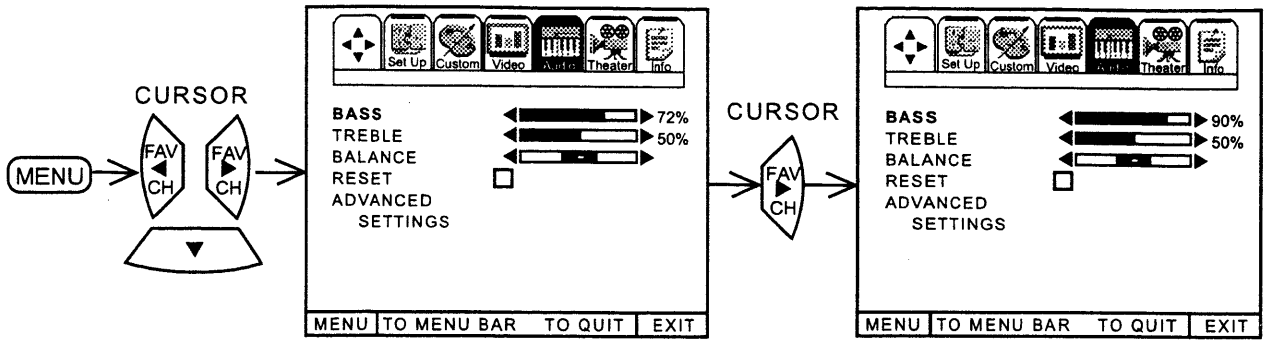
CONTRAST	Use this function to change the contrast between black and white levels in the picture. This adjustment will only affect the picture when ADVANCED SETTINGS ULTRA AI is OFF.
BRIGHTNESS	Use this function to adjust overall picture brightness.
COLOR	Use this function to adjust the level of color in the picture.
TINT	Use this function to adjust flesh tones so they appear natural. (It may be necessary to adjust TINT to obtain optimum picture quality when using the COMPONENT: Y-C_BC_R Input 2 jacks).
SHARPNESS	Use this function to adjust the amount of fine detail in the picture.
RESET	When RESET is selected, press CURSOR ▶ to return video adjustments to factory preset conditions.

Press the front panel MAGIC FOCUS button momentarily for auto setup.


MAGIC FOCUS
AUTO DIGITAL CONVERGENCE
MAGIC FOCUS

To adjust manually, press and hold the MAGIC FOCUS button until CENTER MODE or STATIC MODE is displayed. Press EXIT on the remote to select red or blue. Green is stationary. Use the cursor buttons to adjust. Center mode only adjusts the center section. Static mode adjusts the entire screen. **Note:** This new data is in RAM memory only and will be lost if the MAGIC FOCUS button is pressed again.

Select AUDIO SETTINGS to adjust the TV to your preference and to improve the sound quality.


CURSOR
MENU
FAV ◀ CH
FAV ▶ CH
▼
Set Up
Custom
Video
Audio
Theater
Info
CURSOR
FAV ▶ CH
MENU
TO MENU BAR
TO QUIT
EXIT

BASS 72%
TREBLE 50%
BALANCE
RESET ☐
ADVANCED SETTINGS

BASS 90%
TREBLE 50%
BALANCE
RESET ☐
ADVANCED SETTINGS

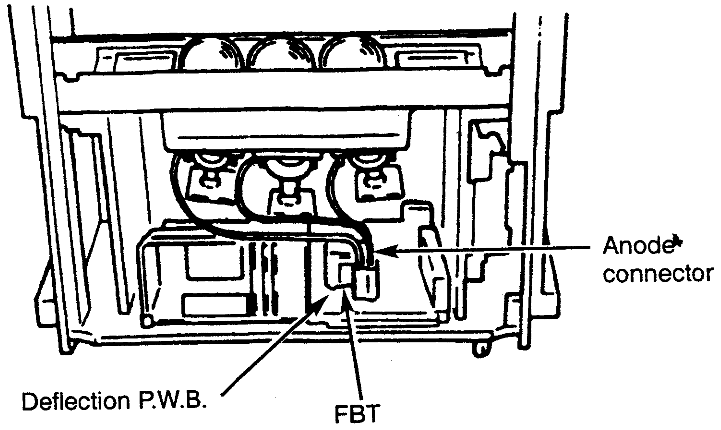
Use CURSOR ▲ or ▼ to highlight the function to be adjusted.
Press CURSOR ◀ or ▶ to adjust the function.
Press EXIT to quit menu.

NOTE: If BASS is selected you are adjusting BASS. The additional menu items TREBLE and BALANCE can be selected and adjusted in the same manner.

BASS	This function controls the low frequency audio to all speakers.
TREBLE	This function controls the high frequency audio to all speakers.
BALANCE	This function will control the left to right balance of the TV internal speakers, the AUDIO TO HI FI output, and WIRELESS OUT output.
RESET	When RESET is selected, press CURSOR ▶ to return audio adjustments to factory preset conditions.

CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

Perform the following when the HV connector (anode connector) is removed or inserted for CPT replacement, etc.


Anode connector
Deflection P.W.B.
FBT

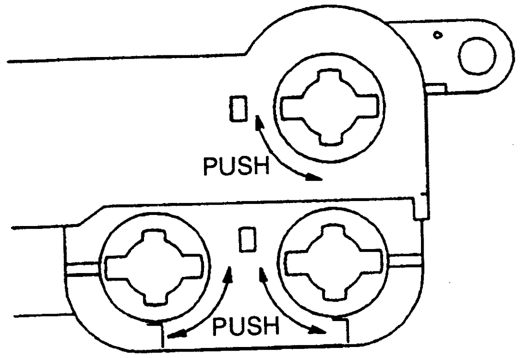


Fig. A

During Removal

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position), push the connector slightly towards the case. (Fig. A)
3. Remove the connector slowly by pulling it away from the case.

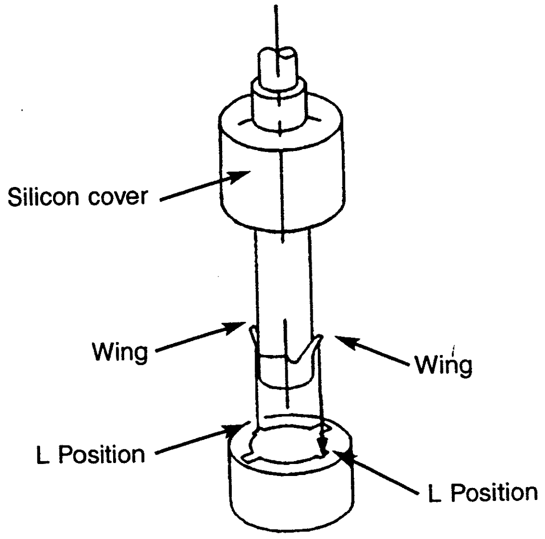

Silicon cover
Wing
Wing
L Position
L Position

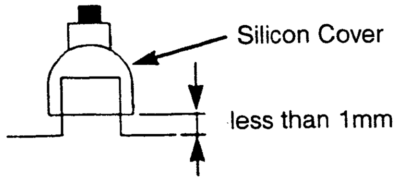
Fig. B

During Insertion

1. Please refer to direction for insertion as shown in Fig. B (L position). Insert connector until "CLICK" sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector).
4. Cover the high voltage output by carefully pushing silicon cover onto it. (Don't turn the connector).

(REMARK)

1. Make sure the silicon cover is covering the high voltage output.


Silicon Cover
less than 1mm

SERVICE ADJUSTMENTS

1. ASSEMBLED P.W.B. ADJUSTMENT 17
  1-1. Memory Initialization 17
  1-2. Comb Filter Operation Check 17
  1-3. Sub Picture Position Adjustment 17

2. FINAL ASSEMBLY ADJUSTMENT 18
  2-1. Focus Adjustment 18
  2-2. White Balance Adjustment 19
  2-3. Sub Brightness Adjustment 19
  2-4. Sub Picture White Balance Adjustment 20
  2-5. Surround Check 20
  2-6. Raster Inclination Adjustment (Deflection Yoke) 21
  2-7. Raster Position Adjustment 22
  2-8. Vertical Size Adjustment (R630) 22
  2-9. Horizontal Size Adjustment (R603) 23
  2-10. Beam Alignment 23
  2-11. Beam Shape Adjustment 23
  2-12. Static Focus Adjustment 24
  2-13. Blue Defocus Adjustment 24
  2-14. Digital Convergence Adjustment 24
    2-14-1. Phase Adjustment (service mode) 25
    2-14-2. Raster Position Adjustment 25
    2-14-3. Convergence Point Adjustment 26
    2-14-4. Digital Convergence Remote Control 26

3. ADJUSTMENT POINT 27
  3-1. CRT (R)(G)(B), Cabinet Locations 27
  3-2. Main Chassis (Signal P.W.B.) 28
  3-3. Main Chassis (Power/Deflection P.W.B.) 29
  3-4. CPT (R)(G)(B), Focus Pack, Control P.W.B. 30

1. ASSEMBLED P.W.B. ADJUSTMENT

1.1 Memory Initialization

Adjustment procedure

(1) Press INPUT key on Control Panel and then Power On to access Video Chroma adjustment mode.

(2) Receive signal on main picture.

(3) Check the OSD according to table below, using ▲▼ buttons on Remote Control.

P.01	AP93
SERVICE	0
SUB CONT	1F
SUB COLOR	1A
SUB TINT	40
SUB SHARP	38
EXT RGB BRIGHT	40
EXT RGB CONT	60
BRIGHTNESS	80
* SUB BRIGHT ADJ.☐	
INITIAL SET ☐	

P.02	AP93
G DRIVE GAIN	47
B DRIVE GAIN	3A
H POSITION	12
AFC G	0
H BLK END PHASE	0
V BLK PHASE	0
V FREQUENCY	1
V POSITION	0
R-Y POSITION	3
R-Y LEVEL	0
G-Y LEVEL	0
GPPHS	1

P.03	AP93
S-TRAC	1
YA	0
Y DL	0
TXACL	1
COLOR A	0
CTL	0
CDE	1
C TRAP	0
TOF FQ	0
TOF Q	0
COLOR SYSTEM	0
DY GAIN	9

P.04	AP93
DC T.C. POINT	0
DC T.C. RATIO	0
DC T.C. LIMIT	0
B.E P. LIMIT	0
B.E. P. POINT1	5
B.E. P. POINT2	0
B.L.S.	0
B.L.C.	1
B.S.G.	0
B.D.L.	0
BEARE	0
DC GAIN	6

P.05	AP93
WPDL	1
HI BRT	1
OSACL	0
APACON PEAK FO	0
WHITE PEAK	0
D. ABL POINT	0
D. ABL GAIN	7
ABL POINT	5
ABL GAIN	6
(BLANK)	(00)
VAPINV	0B
VAPGAIN	5

P.06	AP93
H POSI (CENT)	04 *
V POSI (CENT)	07 *
H DLY OSD	A
V POSI (CENT)	5
1 ST L AFTER V	29
H DLY VBI	2
VIDEO FIELD	1
CLAMP DELAY	34
INITIAL SET ☐	-

*: Adjustable data
Others: Fixed data (be careful not to change)

(4) Check MENU key to exit VIDEO CHROMA ADJUST mode.

NOTE: (1) If there is a different value than shown in table above, for fixed data, adjust it using ◀▶ buttons (only in this case).

(2) When exchanging microprocessor and TV is turned on for first time, it requires initialization of VIDEO CHROMA ADJ on P1 and P6.

(3) Should be changed to OFF for FIRST TIME TOUR at first Power ON by pressing MENU key during FIRST TIME TOUR running.

1.2 Comb filter operation check

Adjustment preparation

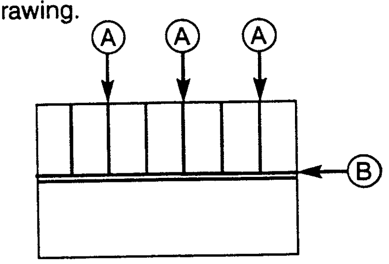
(1) Receive the color bar signal at the regular tuning point.

(2) Set the CONTRAST control to MAX and the other controls to center.

(3) Set the AI to OFF, and 3D Y/C to ON in Advanced Settings.

Adjustment procedure

(1) Check that between the color bars there are not line dots every second color bar as shown in the drawing.



Check Ⓐ and Ⓑ line dots.

	AP93
	DOTS
Ⓐ	None
Ⓑ	None

1.3 Sub-picture position adjustment

Adjustment preparation

(1) Select signal on main picture.

(2) Video settings have to be at normal condition.

Adjustment procedure

(1) Press the INPUT and POWER button on Control Panel at same time to access VIDEO CHROMA ADJUST mode.

(2) Select H POSI and V POSI using ▲▼ buttons.

(3) Adjust the H POSI (HORIZONTAL) and V POSI (VERTICAL) position using ◀▶ buttons.

(4) Press MENU button to exit VIDEO CHROMA ADJUST mode.

(5) Select single PINP mode and move the sub picture, using the MOVE button. Distance between PINP and edge of screen should be equal when moved. If it is not, repeat (1) ~ (5).

NOTE: Check the position of MULTI PINP mode. Check the right edge of the sub pictures for MV-4 to make sure there is no separation between the MULTI PINP and the edge of the screen.

2. FINAL ASSEMBLY ADJUSTMENT

2.1 Focus adjustment

Adjustment preparation

(1) The set can face in any direction: west, east, north or south.

(2) Receive the cross-hatch pattern signal.
CONTRAST : HALF
BRIGHTNESS : MINIMUM

(3) The electrical focus adjustment should have been completed.

(4) The centering DY inclination should have been adjusted.

Adjustment procedure

(1) Loosen the fixing screw on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much. If it is loosened too much, rattling when tightening becomes greater and the focus may drift). After completing steps (5), (6) and (7) below, tighten the fixing screws for each lens with a torque of 12~17 Kgf cm.

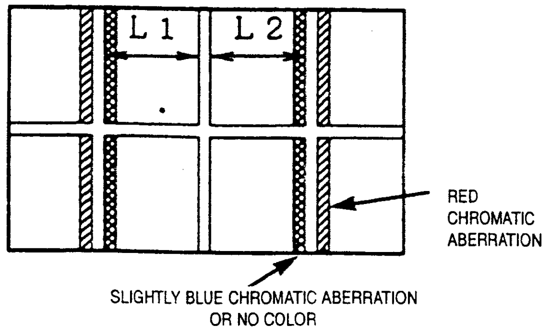
(2) Apply covers to 2 of R, G and B lenses, and project a single color on the screen and adjust in sequence.
(The adjustment order of R, G and B is only an example.)

(3) For each of the R, G and B lenses, observe the color abberation generated on the outer circumference of the cross-hatch bright line at the center section ±3 pitches vertically and horizontally from the center.

(4) If the lens adjustment knob is turned clockwise, viewed from the front, the color aberration changes as follows.

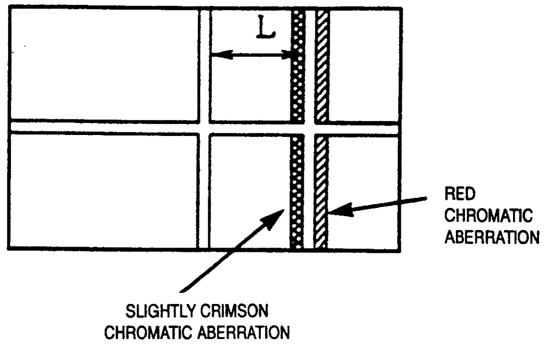
Lens	Change of color aberration
R lens	Red → Crimson
G lens	Blue → Red
B lens	Purple → Green

(5) In case of G lens, set to the point where the chromatic aberration switches from blue to red. If the chromatic aberration appearing all over the screen is not the same, observe the vertical bright line at the center of the screen and set to the position where red chromatic aberration slightly appears inside and blue outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table. When the red chromatic aberration appearing at both sides of the bright line is not equal, observe the side with larger chromatic aberration when adjusting.



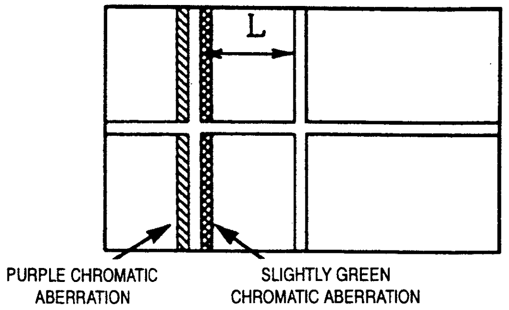
Set Size	Pitch between L1 & L2
53"	3.0 cross-hatch pitches
61"	3.0 cross-hatch pitches

(6) In case of R lens, set to the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line at the center and set to the position where the crimson chromatic aberration slightly appears inside and red outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



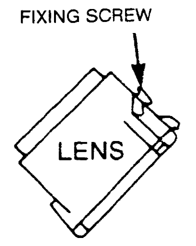
Set Size	Pitch between L
53"	3.0 cross-hatch pitches
61"	3.0 cross-hatch pitches

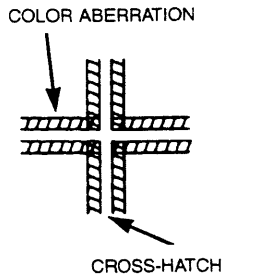
(7) In case of B lens, set to the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line at the center and set to the position where green chromatic aberration slightly appears inside and purple outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.


L
PURPLE CHROMATIC ABERRATION
SLIGHTLY GREEN CHROMATIC ABERRATION

Set Size	Pitch between L
53"	3.0 cross-hatch pitches
61"	3.0 cross-hatch pitches

Notes: (1) Fixing screw (2) Color aberration





(3) Since the G light is very important for picture quality and performance, pay special attention in its adjustment.

Note: Be careful not to touch the lens with your fingers when adjusting.

(4) For red, setting to the center between red and crimson is optimum.

(5) For blue, setting to the center between purple and green is optimum.

2.2 White balance adjustment

(1) Screen adjustment
(2) High brightness white balance.
(3) Low brightness balance.

Screen adjustment VRs	Drive adjustment VRs
Red: on FOCUS PACK	Red: R873 on CPT P.W.B.
Green: on FOCUS PACK	Green: R843 on CPT P.W.B.
Blue: on FOCUS PACK	

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned on.

(2) The vertical incident illumination on the screen should be 20 lux or less.

(3) Set the video settings (CONTRAST: MAX, others: center) to standard condition

(4) For low brightness white balance adjustment, input a white raster signal level of 0.145 Vp-p (Video input level).

(5) For high brightness white balance adjustment, input a white raster signal level of 0.715Vp-p (Video input level).

(6) Set the drive adjustment VRs (red and green) to 12 - 2 o'clock position.

(7) Turn the screen adjustment VRs (red, green and blue) fully counterclockwise.

(8) Set video advanced setting white control to COOL position.

Adjustment procedure

(1) Go to VIDEO CHROMA ADJUST mode by pressing INPUT and Power button on Control Panel at the same time.

(2) In "SERVICE" mode push ▶ button and screen turns to black. Gradually turn the screen adjustment VRs (red, green, blue) clockwise and set them where the red, green and blue slightly bright lines just appear evenly on the screen.

(3) Push the ▶ button again to return to "Normal" side.

(4) Press "MENU" button to exit VIDEO CHROMA ADJUST.

(5) Select the input signal for high brightness (Video level = 0.715Vpp).

(6) Adjust the high brightness white balance using the drive adjustment VRs (red, green).

(7) Select the signal for low brightness (Video level = 0.145Vpp)

(8) Adjust the low brightness white balance using the screen adjustment VRs (red, green, blue). (Visually adjust).

(9) Check that high brightness white balance is obtained. If it does not, return to step (7).

NOTE: Before adjusting the White Balance, check that the screen adjustment VRs are turned fully counterclockwise. Since the phosphorescent surface of the CRT is likely to be burned, be careful.

White balance = 9300° K ± 0MPCD
Color coordinate = x 0.285
y 0.295

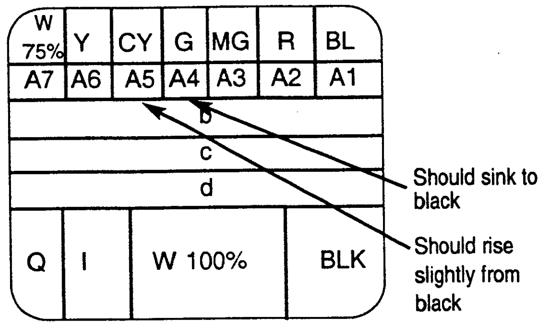
2.3 Sub brightness adjustment

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned ON. Receive the color bar signal.

(2) Set the contrast and color controls to minimum.

(3) The vertical incident illumination on the screen should be 20 lux or less.



Adjustment procedure

(1) Go to "Sub Brightness" adjustment in VIDEO CHROMA ADJUST mode (press Input and Power button on Control panel at same time), using ▲ ▼ buttons and then ▶ button.

(2) Then adjust "Sub Brightness" using ◀ ▶ buttons to increase or decrease the value, according to figure. (Visually adjust).

(3) After adjustment, press MENU button to exit VIDEO CHROMA ADJUST mode. (Data is stored in memory).

Note: When selecting SUB-BRIGHTNESS mode the mcon sets the CONTRAST and COLOR to MIN. automatically, but make sure that the other conditions are center. Directly observe the screen by eye without using a mirror.

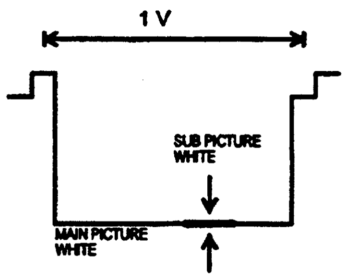
2.4 Sub picture white balance adjustment (R0M4, R0M6, R0M8)

Adjustment preparation

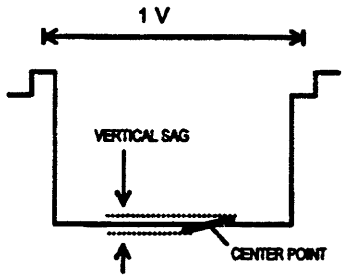
1. (1) Start adjustment after power is ON for 20 minutes.
2. (2) Use a white raster signal for adjustment.
3. (3) Press "FREEZE" on the remote control and select "SINGLE" freeze mode to display the sub picture.
4. (4) Set CONTRAST to Maximum, Other conditions to center.

Adjustment procedure

1. (1) Connect oscilloscope to P802 and adjust R0M8 to match blue level of main and sub pictures.
2. (2) Repeat for P832 and R0M6 Green, P862 and R0M4 for Red.



Note: If the sub picture has a signal sag, adjust level at center point.



2.5 SRS Surround Check

Adjustment preparation

(1) Input the following audio signals to the audio input of the VIDEO INPUT terminals.

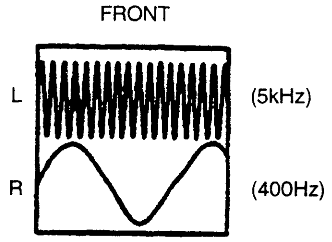
- When checking surround:
  ① L CH: No signal
  ② R CH: 400Hz sine wave 1 Vpp.
- Set the AUDIO ADVANCED SETTING for INT. SPEAKERS ON,DYNAMIC BASS OFF, LOUDNESS OFF and PERFECT VOLUME OFF.
- Set the volume control of FRONT to around the center.
- Set the BASS, TREBLE and BALANCE to center.

Note: Front waveform: Front speaker output of the set.

2.5.1 Surround off check

Adjustment procedure

(1) Set to SURROUND: OFF and check that the waveform shown below is obtained (Input signal ① and ②).

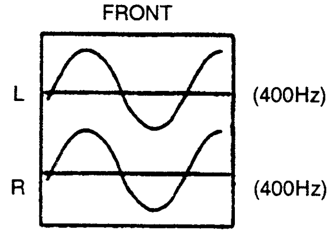


Note: The rear and center will have no output.

2.5.2 Surround off/monaural check

Adjustment procedure

Check that the following waveform is obtained. The amplitudes of 2 channels are equal. (Input signal ① only).



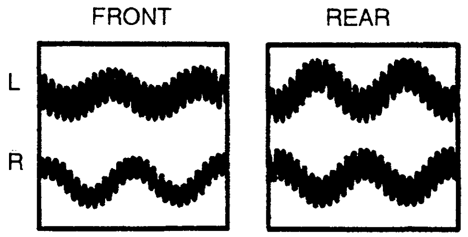
Note: Monaural check can be omitted. The rear and center have no output.

2.5.3 Matrix surround check

Adjustment procedure

(1) Set to SURROUND: MATRIX

- Check that the following waveforms are obtained. (Input signal ① and ②).
- Front: Check that the phases of R and L are different and 400Hz is superimposed on 5kHz. The amplitudes of R and L are different.
- Rear: Check that the phases of R and L are opposite and 400Hz is superimposed on 5kHz. The amplitudes of R and L are different.

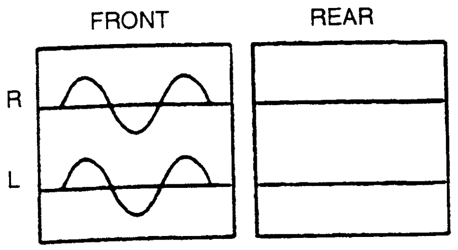


Note: Center has no output.

2.5.4 Matrix surround/monaural check

Adjustment procedure

- Check that the following waveforms are obtained. (Input signal ① only)
- Front: R and L waveforms are almost equal.
- Rear: R and L waveforms are almost Zero.



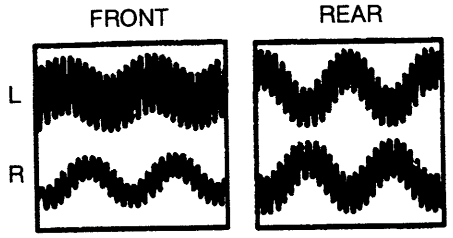
Note: Center has no output.

2.5.5 Hall surround check

Adjustment procedure

(1) Set to SURROUND: HALL. (Input signal ① and ②).

- Front: Check that the phases of R and L signals are different and 400 Hz is superimposed on 5kHz.
- Rear: Check that the R and L are opposite and 400Hz is superimposed on 5kHz. The R and L amplitudes are equal.

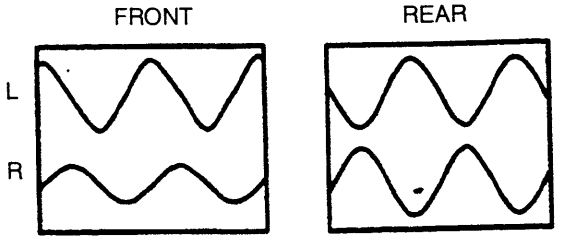


Note: Amplitude levels of front R and L are not even depending on P.W.B. Center has no output.

2.5.6 Hall surround/monaural check

Adjustment procedure

- Check that the following waveforms are obtained. (Input signal ① only)
- Front: The phases of R and L are different. The amplitudes are different.
- Rear: The phases of R and L are opposite. The amplitudes of R and L are equal.



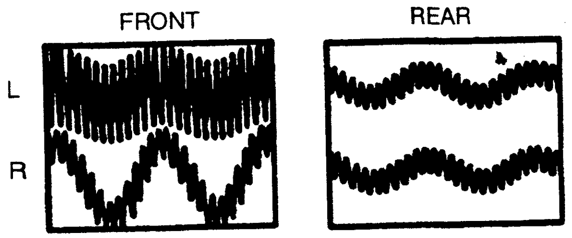
Note: The monaural check can be omitted. Amplitude levels of front R and L are not even depending on the P.W.B. Center has no output.

2.5.7 Dolby surround check

Adjustment procedure

(1) Set to SURROUND: DOLBY-NORMAL

- Check that the following waveforms are obtained. (Input Signal ① and ②)
- Front: 400 Hz is superimposed on 5kHz.
- Rear: R and L are the same signal and 400Hz is superimposed on 5kHz.



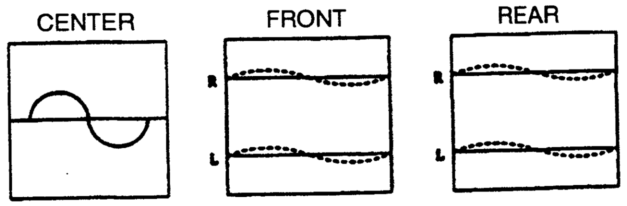
Note: MODE: PRO LOGIC (NORMAL)

2.5.8 Dolby surround/monaural check

Adjustment procedure

(1) Set to SURROUND: DOLBY-NORMAL

- Check that the following waveforms are obtained. (Input signal ① only).
- Front: Almost no output from both R and L.
- Center: Same as the audio input signal.
- Rear: Almost no output from both R and L.



2.6 Raster Inclination adjustment (Deflection yoke)

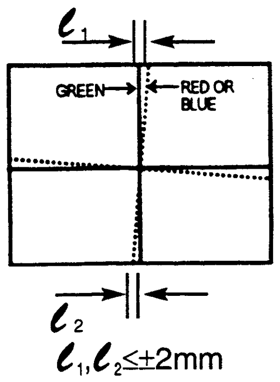
Adjustment preparation

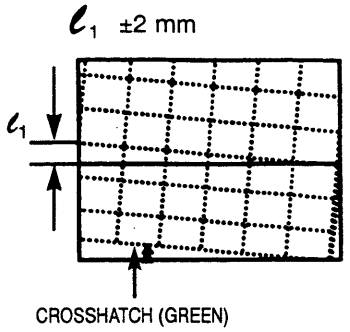
1. (1) The set can face east or west.
2. (2) Input the single cross test signal.
3. (3) Set video conditions to factory reset.
4. (4) The lens focus adjustment should have been completed.
5. (5) The electric focus should have been coarse adjusted.
6. (6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
7. (7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

1. (1) Apply covers to the R and B lenses and project only green light.
2. (2) Turn the G deflection yoke and adjust the vertical raster inclination.
3. (3) Then, remove the cover of R or B lens and project red or blue light and green light together on the screen.

(4) Turn the deflection yoke of R or B and set so that the inclination of R or B with respect to the green light is as shown below on the top and bottom sides.
(5) After raster inclination adjustment, fixing screw of DY should be screwed with 12±2kg-cm torque.





Notes: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again, on POWER/DEFLECTION PWB.
(2) To restore old RAM data, turn TV off and on.

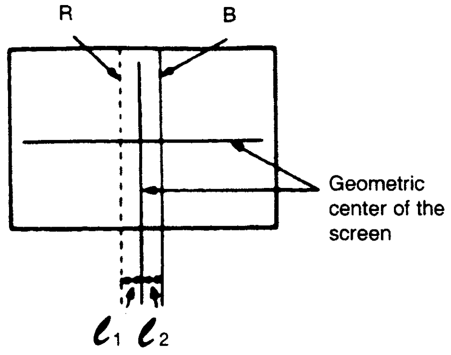
2.7 Raster position adjustment

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn the centering magnets for red, green, and blue to satisfy the condition below. The red and blue horizontal lines should match with green.

AP93

	ℓ_1 (RED)	ℓ_2 (BLUE)
61"	10	40
53"	10	40



NOTES: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

2.8 Vertical size adjustment (R630)

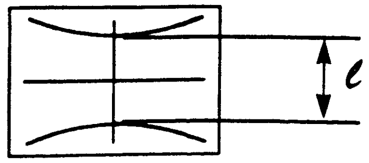
Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state) . With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn only the green by applying covers to the red and blue lens or shorting the 2 pin TS connectors on the red and blue CPT P.W.B.
(2) Count the vertical lines of the DCU cross hatch. If the number of vertical lines is 9, go to step (3). If the number of vertical lines is 8, push "HELP" key and then "5" key on the R/C so the number of vertical lines becomes "9".
(3) Turn vertical amplitude adjustment VR (R630) so that the distance between the top and bottom horizontal lines is equal to the size shown in the table.

ℓ:

Size	AP93
61"	800 ± 5mm
53"	690 ± 5mm

Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again (on POWER/DEFLECTION PWB).
(2) To restore old RAM data, turn TV off and on.



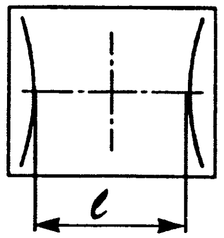
2.9 Horizontal size adjustment (R603)

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Project only green, the same as Vertical size adjustment.
(2) Turn horizontal amplitude adjustment VR (R603) so distance between the left and right vertical lines is equal to the size shown in the table.

ℓ:

Size	AP93
61"	1140 ± 5mm
53"	1010 ± 5mm

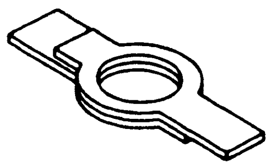


Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

2.10 Beam alignment

Adjustment preparation
(1) Adjust at least 30 minutes after turning on power switch.
(2) Raster inclination, centering, horizontal and vertical amplitudes and optical focus adjustment should be completed.
(3) Set video conditions to factory reset.
(4) Receive cross-hatch signals. (Use of internal cross-hatch signals allowed.)
(5) Short-circuit all metal parts (metal fittings, centering magnet) installed on the projection tubes to GND's of the projection tubes. Since metal parts are charged with electricity, shocks may be caused if they are not short circuited.

Adjustment procedure
(1) Green (G) tube beam alignment adjustment. Short-circuit 2P subminiature connector plug pins of Red (R) and Blue (B) on the CRT boards and project only Green (G) tube.
(2) Put Green (G) tube beam alignment magnet to the cancel state as shown below.

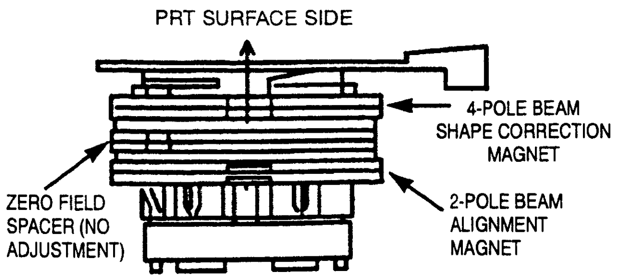


(3) Turn the Green (G) static focus (Focus Pack) counterclockwise all the way and make sure of position of cross-hatch center on screen. (Halo state.)
(4) Turn the Green (G) static focus (Focus Pack) clockwise all the way. (Blooming state.)
(5) Turn two magnets forming alignment magnet in any desired direction and move cross-hatch center to position found in (3).
(6) If image position does not shift when Green (G) static focus (Focus Pack) is turned. Green (G) beam alignment has been completed.
(7) If image position shifts when Green (G) static focus (Focus Pack) is turned, repeat (2)-(6).
(8) Conduct beam alignment for red (R) focus: Focus Pack UFPK Blue (B) focus: Focus Pack UFPK.
(9) Upon completion of adjustment, fix beam alignment magnets with white paint.

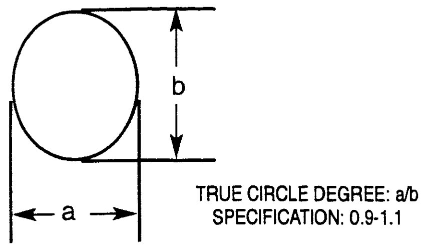
2.11 Beam shape adjustment

Adjustment preparation
(1) The beam alignment should have been completed.
(2) The raster inclination, centering, horizontal/ vertical amplitude and optical focus adjustments should have been completed.
(3) Set video conditions to factory reset.
(4) Input the dot signal.

Adjustment procedure
(1) Green PRT beam shape adjustment. Short-circuit 2P sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the green static focus fully clockwise. (Blooming.)
(3) Make the dot at the screen center a true circle using the 4-pole magnet as shown below.
(4) Also adjust the Red and Blue PRT beam shapes according to the steps (1) to (3).
(5) After the adjustment has been completed, return R, G and B static VRs to the just focus point.


PRT SURFACE SIDE
4-POLE BEAM SHAPE CORRECTION MAGNET
ZERO FIELD SPACER (NO ADJUSTMENT)
2-POLE BEAM ALIGNMENT MAGNET

TRUE CIRCLE SPECIFICATION



2.12 Static focus adjustment

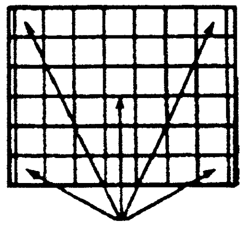
Adjustment preparation

1. The raster inclination, centering, horizontal/vertical amplitude and optical/electrical focus beam alignment should have been adjusted.
2. The static convergence data should be cleared.
3. Set video conditions to factory reset.
4. Receive the cross-hatch pattern signal.
5. Apply covers to the lenses of colors other than the color to be adjusted and project a single color.

Adjustment procedure

1. Red (R), Green (G) and Blue (B) static focus adjustment. Vary the static focus VR (focus pack UFPK) and make the center of the cross-hatch pattern clearest.
2. Observe the corners of the picture and check that the focus does not get conspicuously worse.

OBSERVING POINTS OF THE CORNER OF THE PICTURE



OBSERVING POINTS

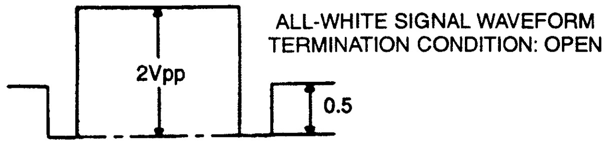
2.13 Blue defocus adjustment

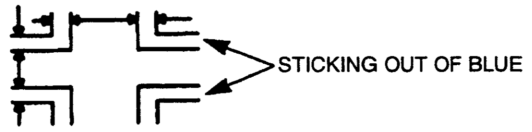
Adjustment Preparation

1. Optical and electrical focus adjustment should have been completed.
2. The convergence adjustment should have been completed.
3. Set Video conditions to factory reset.

Adjustment procedure

1. Input an all-white signal shown below to VIDEO input.
2. Short-circuit 2P sub-mini connectors on the red and green CPT P.W.Bs. to display only the blue beam.
3. Turn the B Focus VR (Focus Pack) fully clockwise.
4. Measure the brightness at the center of the screen and turn the B FOCUS VR (Focus Pack) counterclockwise to adjust the brightness of blue.
5. After the adjustment is completed, if blue exceeds the specification, turn and adjust focus so that the sticking out part of blue satisfies the specification.





UNEVENNESS SPECIFICATION: ±1cd/m^2

Defocus sticking out specification

Screen Size	Blue sticking out
53"	1.0mm
61"	1.0mm

Condition: User controls are set to the initial set positions (for shipment) Measuring point Screen center.

Cautions: Correct the brightness gauge and amplitude of the all-white signal periodically. The aperture angle of the brightness gauge is 1°.

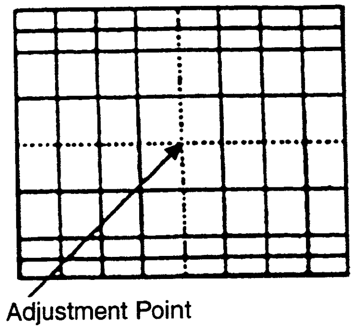
Use a cross-hatch pattern to check.

2.14 Digital convergence adjustment

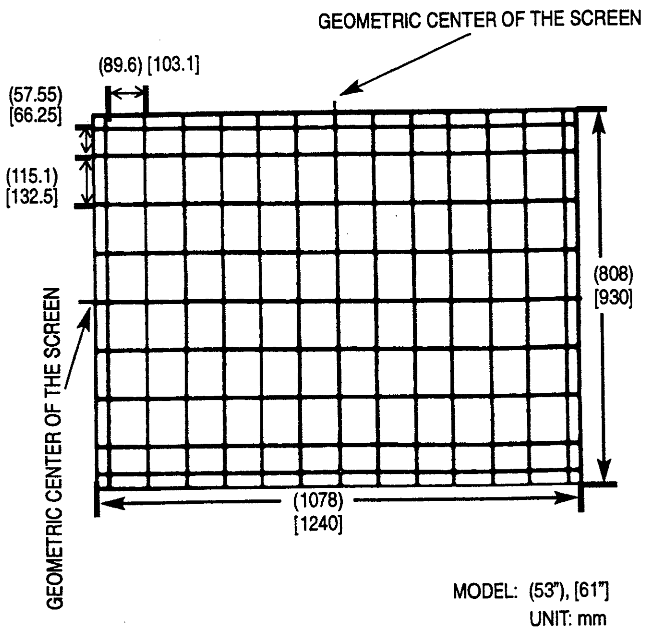
Note: If replacing a PRT, DY, etc. perform auto-digital convergence first. (Press front panel MAGIC FOCUS switch when in normal customer mode). This can eliminate the need for a complete digital convergence alignment.

Adjustment preparation

1. Receive an RF or video signal.
2. Set controls to factory preset.
3. Install jig screen on the set.
4. Note the center of the video pattern displayed. This is necessary to match dotted lines (adjustment point viewed) and actual point that is adjusted and displayed by the video signal.
5. Press the service only switch (on POWER/DEFLECTION PWB). The pattern displayed is now the digital convergence mode.
6. When performing a complete digital convergence adjustment CLEAR DATA in RAM. See 2.6. (1) - (7).



JIG SCREEN SPECIFICATION



Note: If only minor adjustments to convergence are needed, the jig screen is not necessary. Use digital data stored in memory and one color as a reference (red, green, or blue). DO NOT CLEAR DATA and WRITE to ROM memory.

2.14.1 Phase adjustment (service mode)

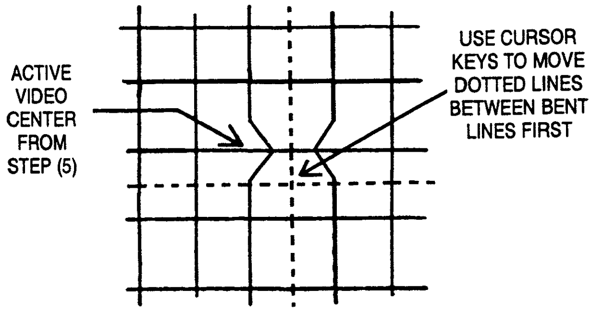
Adjustment preparation

1. PHASE adjustment - This is to match the digital convergence cursor position to the video image displayed, and to match the digital convergence cursor position (dotted lines) to digital convergence data position (bent lines).

Adjustment procedure

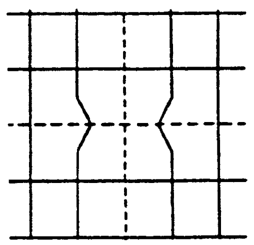
1. Press the HELP button on the remote to select phase adjustment. (Only Green displayed).
2. Identify the bent lines and use the cursor buttons to move the dotted lines in between as shown.
3. Press HELP to exit PHASE mode.
4. Press EXIT 5 times to display external signal.
5. Identify center of active video, then press EXIT 5 times to return to internal cross-hatch.
6. Press EXIT (phase adj.), and use 2, 4, 5 and 6 to position internal cross-hatch center on active video center identified in step (5).
7. Press HELP to exit PHASE mode.

BEFORE


ACTIVE VIDEO CENTER FROM STEP (5)
USE CURSOR KEYS TO MOVE DOTTED LINES BETWEEN BENT LINES FIRST

THEN USE NUMBER KEYS TO MATCH INTERNAL CROSSHATCH CENTER TO ACTIVE VIDEO CENTER

AFTER



2.14.2 Raster position adjustment

Adjustment preparation

1. Position adjustment - This will move an entire color. Use this adjustment to match colors at the center of the screen. (Active video center from external signal and physical screen center should now match from phase adj. 2.15.1.).
2. Use the buttons below to switch color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

Adjustment procedure

1. Press the FRZ button. Extra horizontal lines appear to confirm raster position mode.
2. Use the cursor buttons to adjust position.
3. Press FRZ again to exit raster position mode.

Notes: (1) Other functions cannot be accessed when in raster position adjustment mode. Press FRZ and confirm extra horizontal lines disappear to exit raster position mode.
(2) Press MENU to switch between all colors displayed or adjustment color and Green only.

2.14.3 Convergence point adjustment

Adjustment preparation

(1) Select color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

(2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).

(3) Use cursor buttons to move the convergence point.

(4) Three adjustment modes are available:
1. (3x3) Press "RECALL" 5 times
2. (7x5) Press "0" 5 times
3. (13x9) Press "INPUT" 5 times

Note: 3x3 mode can only be accessed at start of adjustment from clear data in RAM adjustment mode.

For touch-up, only the (13x9) mode is necessary. This will adjust every cross-hatch intersection point on the screen.

For complete adjustment, start with (3x3) mode. This will adjust center point and eight edge points only, but will greatly reduce adjustment time. Then use (7x5) mode, and finally (13x9) mode to finish convergence.

If "S" distortion appears between cross-hatch lines repeat (7x5) mode to change calculation process while adjusting to remove distortion, then return to (13x9) mode to finish touch-up convergence.

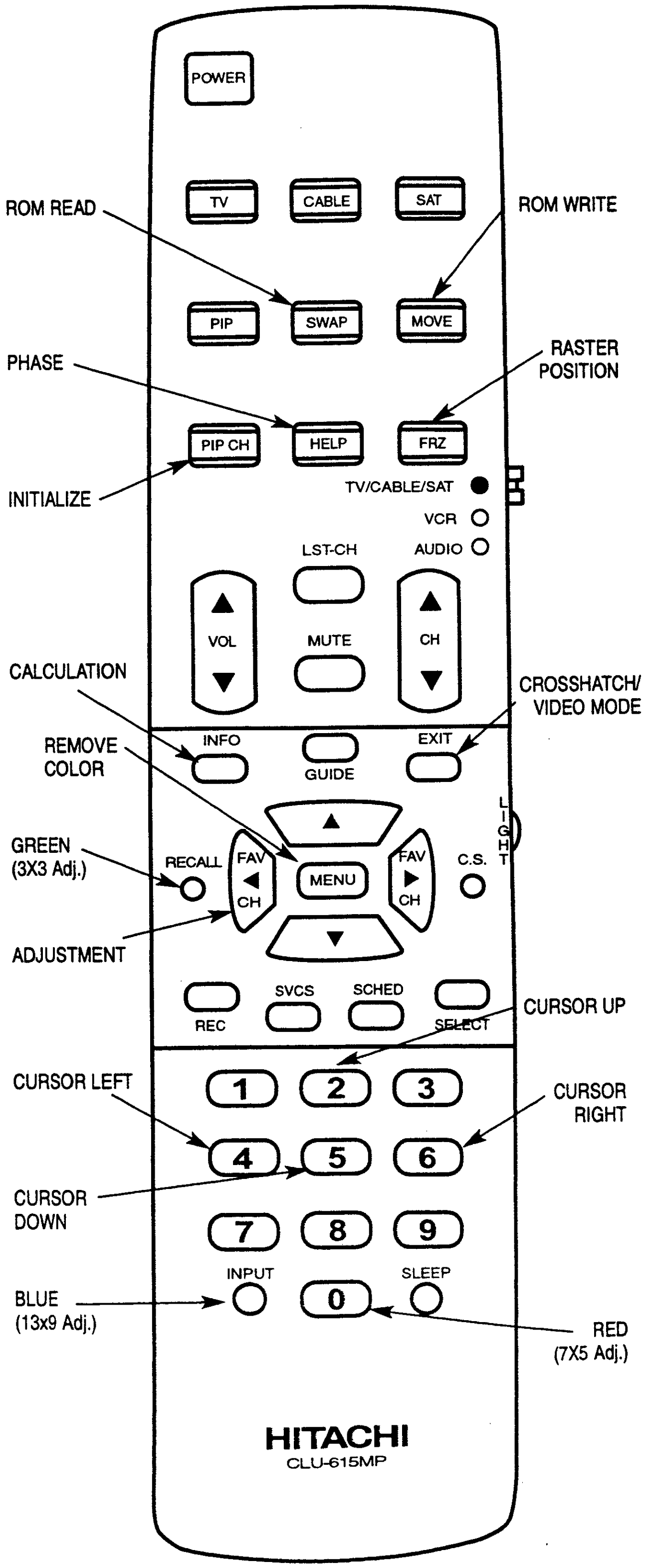
Adjustment procedure

(1) Start adjustment at the center of the screen.
(2) Continue adjustment at next closest position.
(3) Adjust center area first, ending with edge sections.
(4) Press INFO button to perform interpolation operation. This process will take about 15 seconds and no picture will be seen at this time.
(5) After interpolation, check convergence again and repeat (1)-(5) if necessary.
(6) When convergence is acceptable, press MOVE to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the MOVE button again to write displayed data to ROM.
(7) DATA WRITE TO ROM will take approximately 20 seconds and no picture will be displayed.
(8) Green dots will be displayed when operation is complete.
(9) Press MUTE to return to convergence pattern, then confirm again convergence is acceptable.
(10) Press MOVE (ROM WRITE) mode, then press PIP CH to initialize sensor data positions.

Notes: (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "RECALL".
(2) Perform interpolation and data write to ROM after green adjustment. Once green has been confirmed to match jig screen, the jig screen can be removed. Do not readjust the green color after jig screen has been removed. This is now your reference color.
(3) Display green and red only and match red to green.
(4) Display all colors and match blue to green and red. Touch-up red color if necessary.

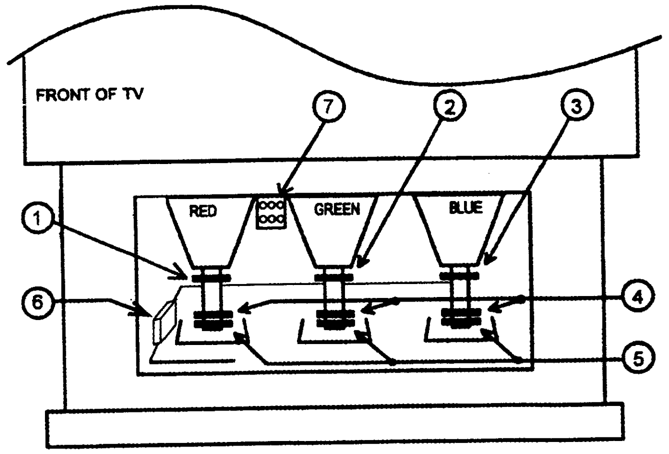
(5) Existing DATA in ROM can be read by pressing the SWAP button 2 times. This data can be used after replacing a component (CRT, DY, etc.) Where complete convergence adjustment is not necessary be careful not to overwrite this data.
DO NOT write cleared RAM data into ROM or a complete convergence adjustment will be necessary. Remember to try MAGIC FOCUS before starting convergence adjustment to minimize adjustment time.

2.14.4 Digital Convergence Remote Control


POWER
ROM READ
TV
CABLE
SAT
ROM WRITE
PIP
SWAP
MOVE
PHASE
RASTER POSITION
PIP CH
HELP
FRZ
INITIALIZE
TV/CABLE/SAT
VCR
AUDIO
LST-CH
VOL
MUTE
CH
CALCULATION
CROSSHATCH/ VIDEO MODE
REMOVE COLOR
INFO
GUIDE
EXIT
LIGHT
GREEN (3X3 Adj.)
RECALL
FAV CH
MENU
FAV CH
C.S.
ADJUSTMENT
REC
SVCS
SCHED
SELECT
CURSOR UP
CURSOR LEFT
1
2
3
CURSOR RIGHT
4
5
6
CURSOR DOWN
7
8
9
INPUT
SLEEP
BLUE (13x9 Adj.)
0
RED (7X5 Adj.)
HITACHI
CLU-615MP

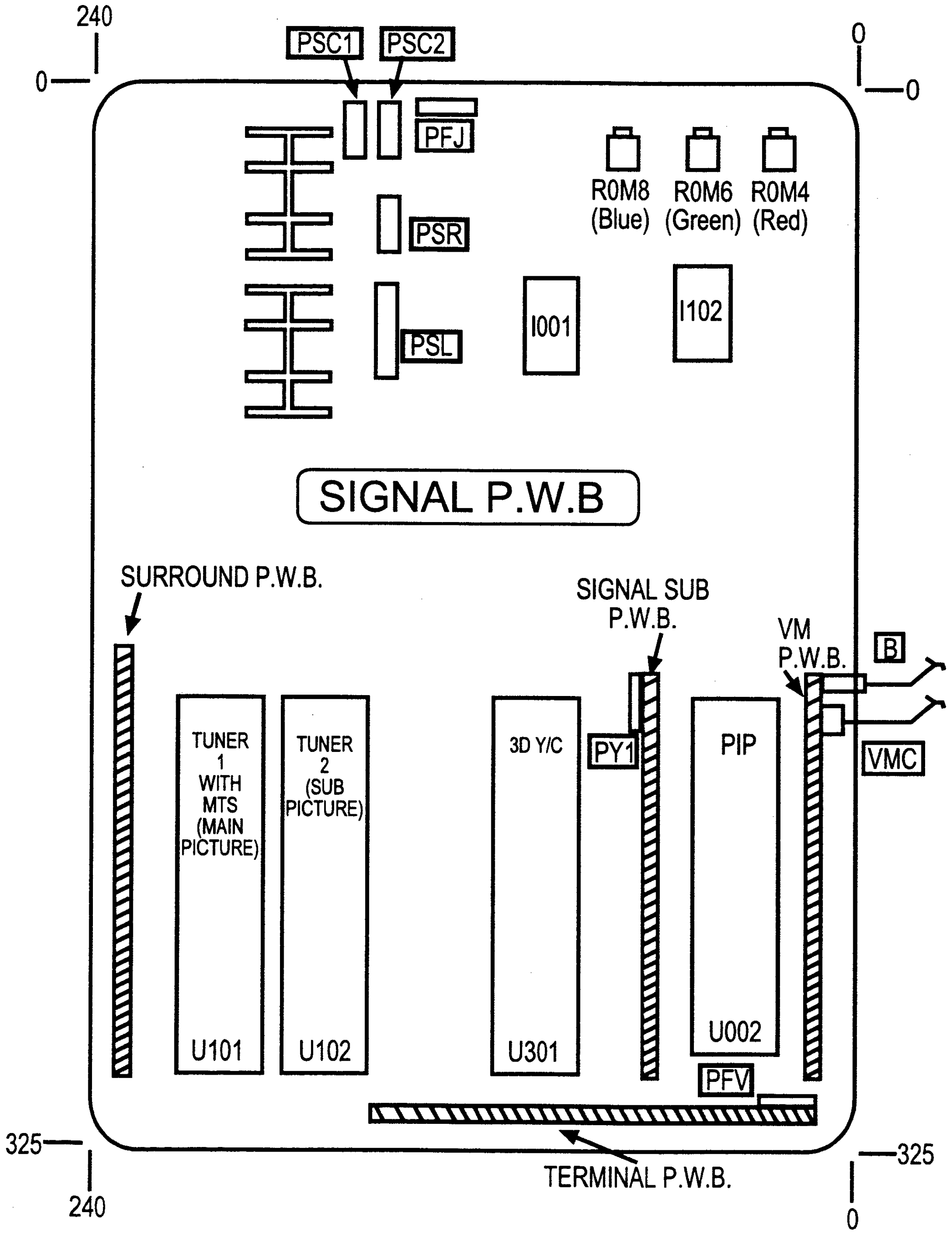
3. ADJUSTMENT POINT

3.1 CRT, cabinet locations

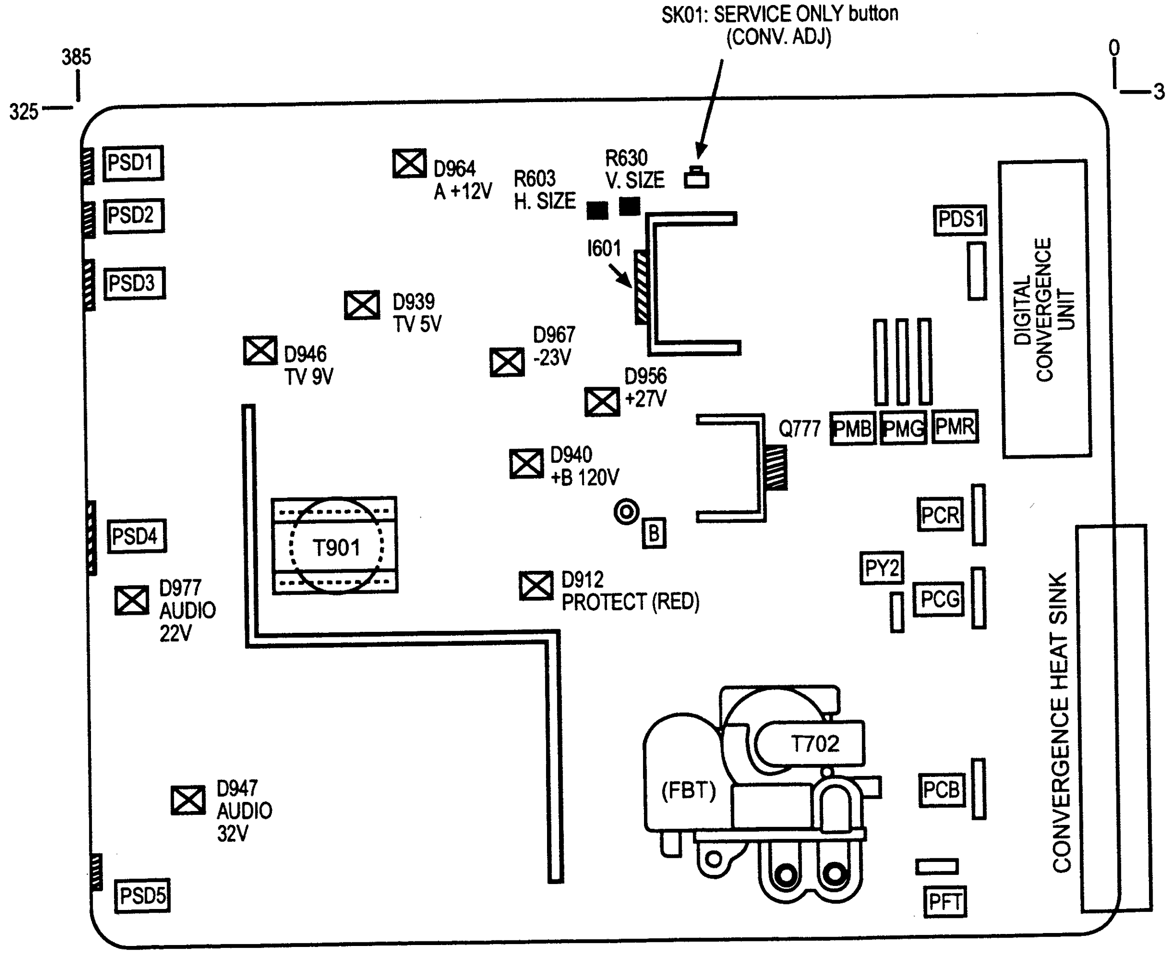

FRONT OF TV
7
2
3
1
RED
GREEN
BLUE
6
4
5

1. CENTERING MAGNET FOR RED PRT
2. CENTERING MAGNET FOR GREEN PRT
3. CENTERING MAGNET FOR BLUE PRT
4. 4-POLE MAGNET FOR BEAM FORM ADJUSTMENT
5. BEAM ALIGNMENT MAGNET
6. DIGITAL CONVERGENCE MODULE (On Power/Deflection Board)
7. FOCUS PACK (Top Adjustments for Screen, Bottom for Focus)

3.2 MAIN CHASSIS
(Signal P.W.B.)

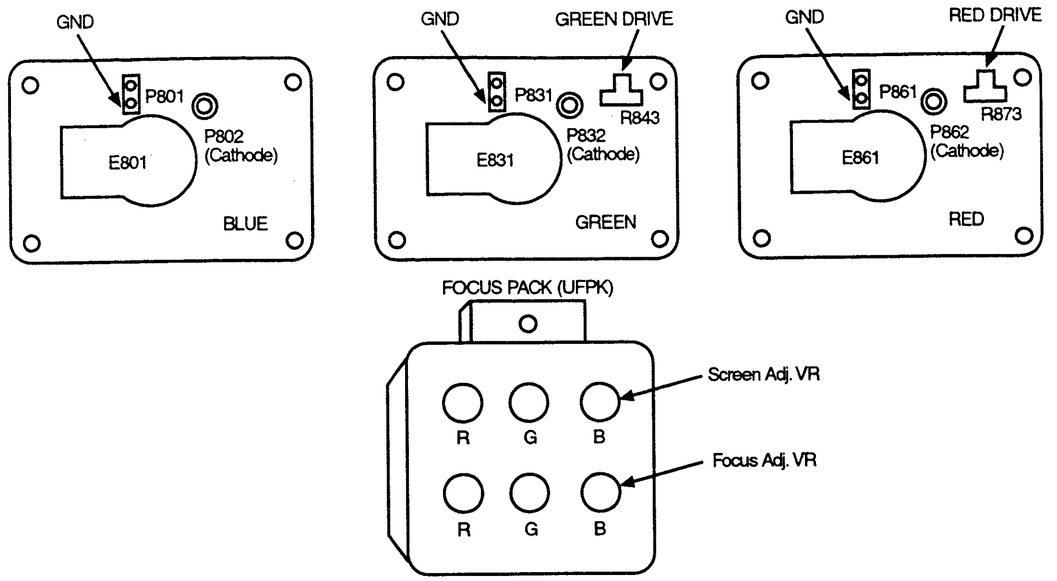

240
0
0
0
PSC1
PSC2
PFJ
PSR
PSL
R0M8 (Blue)
R0M6 (Green)
R0M4 (Red)
I001
I102
SIGNAL P.W.B
SURROUND P.W.B.
SIGNAL SUB P.W.B.
VM P.W.B.
B
VMC
PY1
TUNER 1 WITH MTS (MAIN PICTURE)
U101
TUNER 2 (SUB PICTURE)
U102
3D Y/C
U301
PIP
U002
PFV
TERMINAL P.W.B.
325
240
325
0

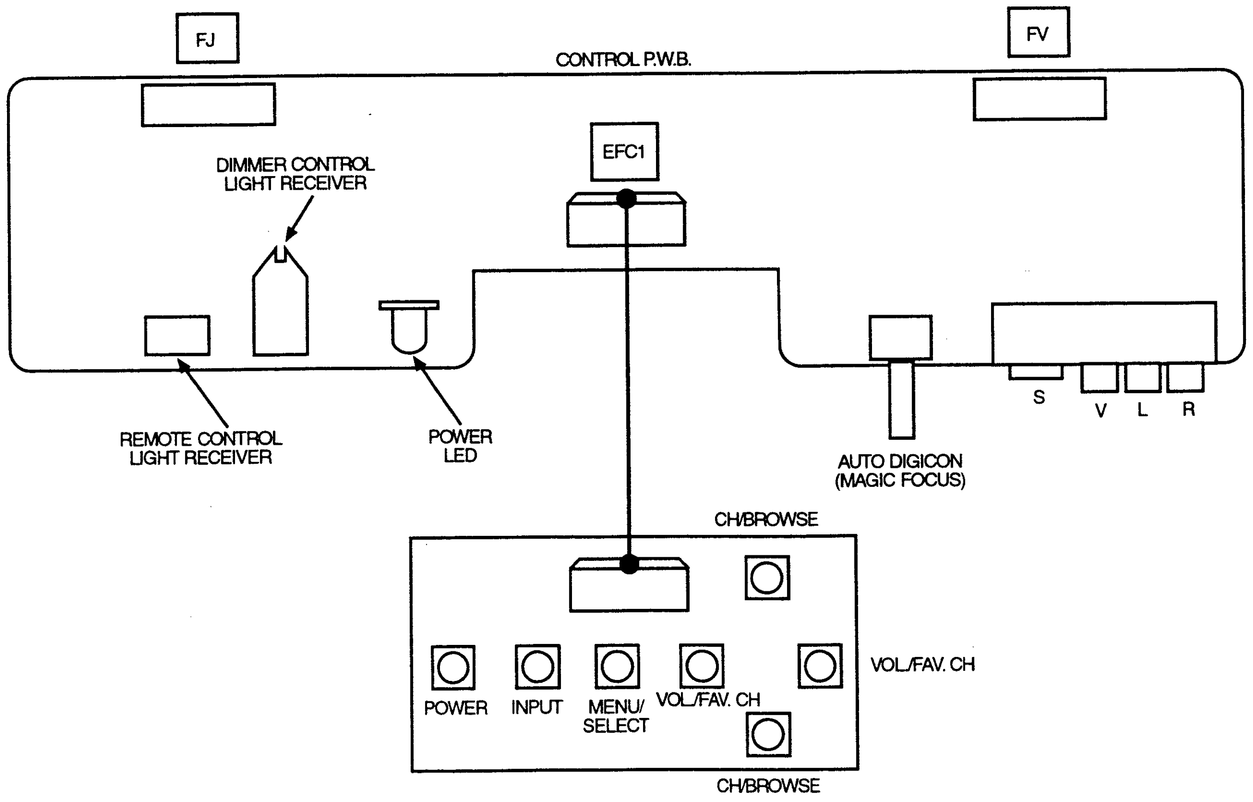
3.3 MAIN CHASSIS
(Power/Deflection P.W.B.)


SK01: SERVICE ONLY button (CONV. ADJ)
385
325
0
325
PSD1
PSD2
PSD3
PSD4
PSD5
D964 A +12V
R603 H. SIZE
R630 V. SIZE
I601
D939 TV 5V
D946 TV 9V
D967 -23V
D956 +27V
D940 +B 120V
B
T901
D912 PROTECT (RED)
D977 AUDIO 22V
D947 AUDIO 32V
T702
(FBT)
Q777
PMB
PMG
PMR
PDS1
DIGITAL CONVERGENCE UNIT
PCR
PY2
PCG
PCB
PFT
CONVERGENCE HEAT SINK

☒ SERVICE LED.

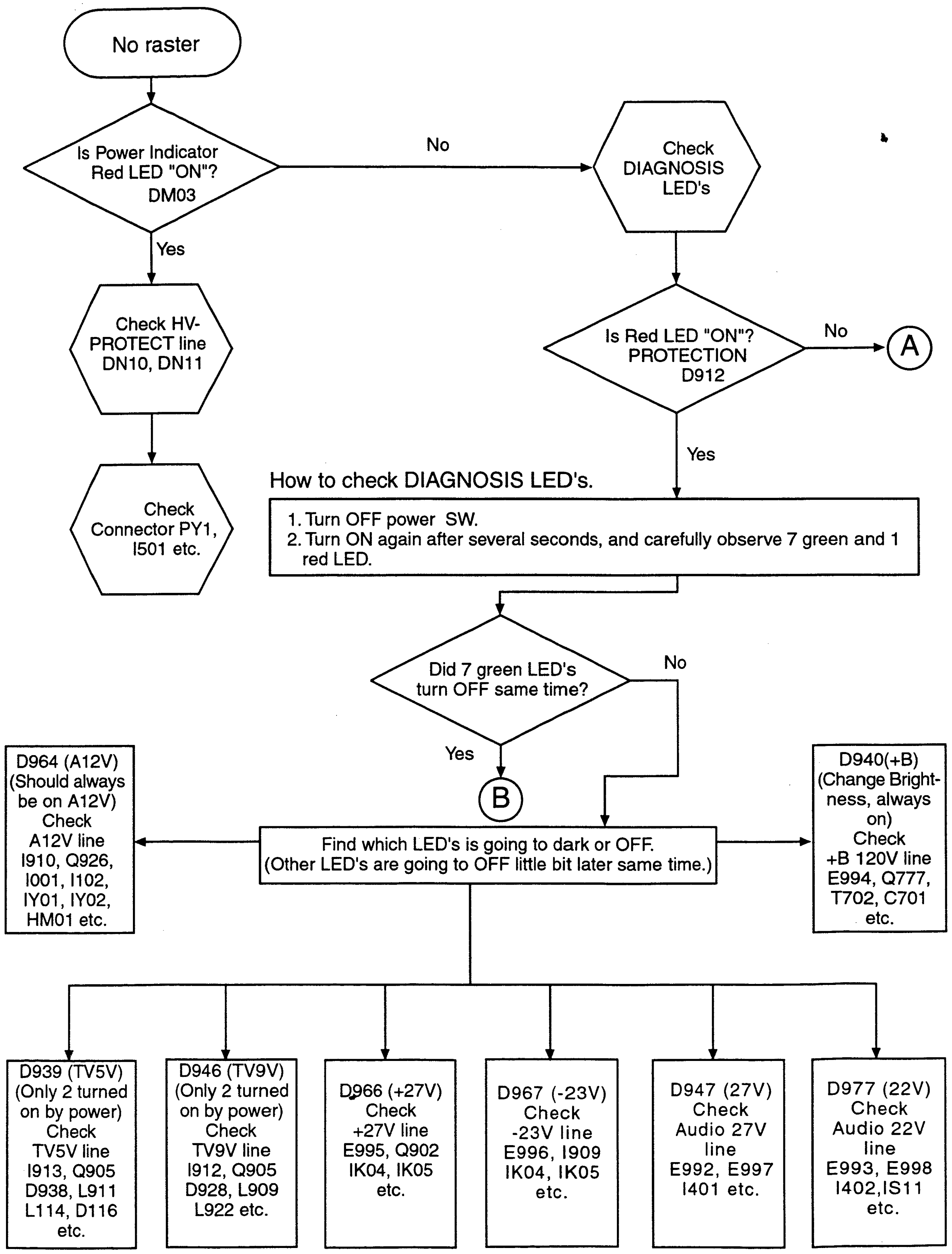
3.4 CPT (R) (G) (B), Focus Pack, Control P.W.B.

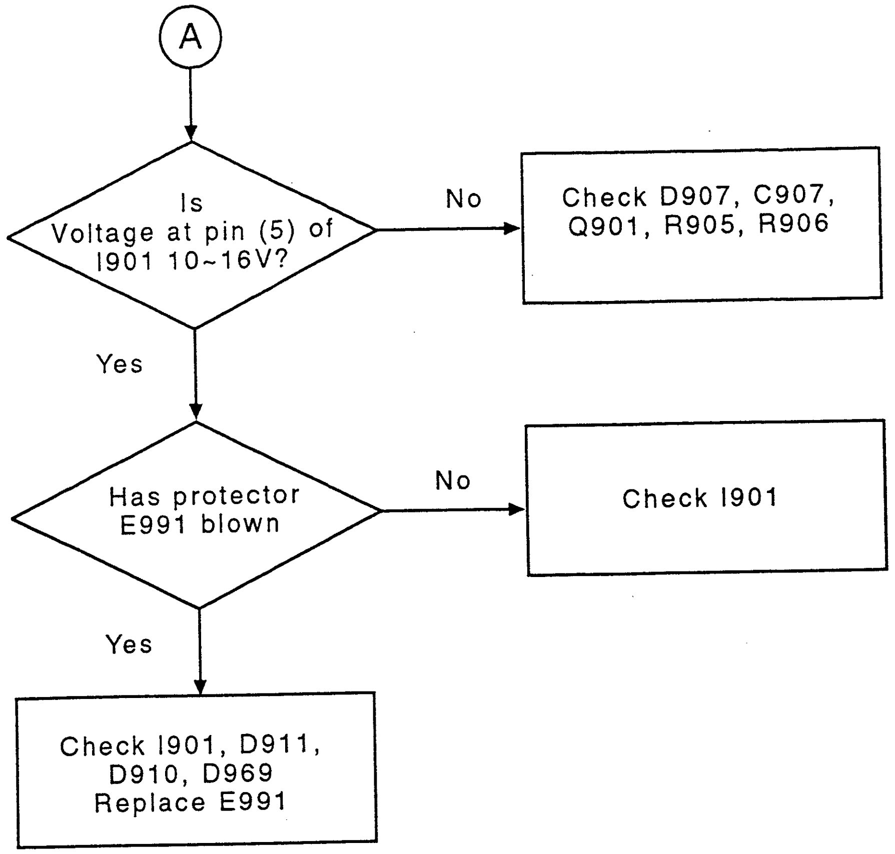

GND
P801
P802 (Cathode)
E801
BLUE
GND
GREEN DRIVE
P831
R843
P832 (Cathode)
E831
GREEN
GND
RED DRIVE
P861
R873
P862 (Cathode)
E861
RED
FOCUS PACK (UFPK)
Screen Adj. VR
Focus Adj. VR
R
G
B
R
G
B

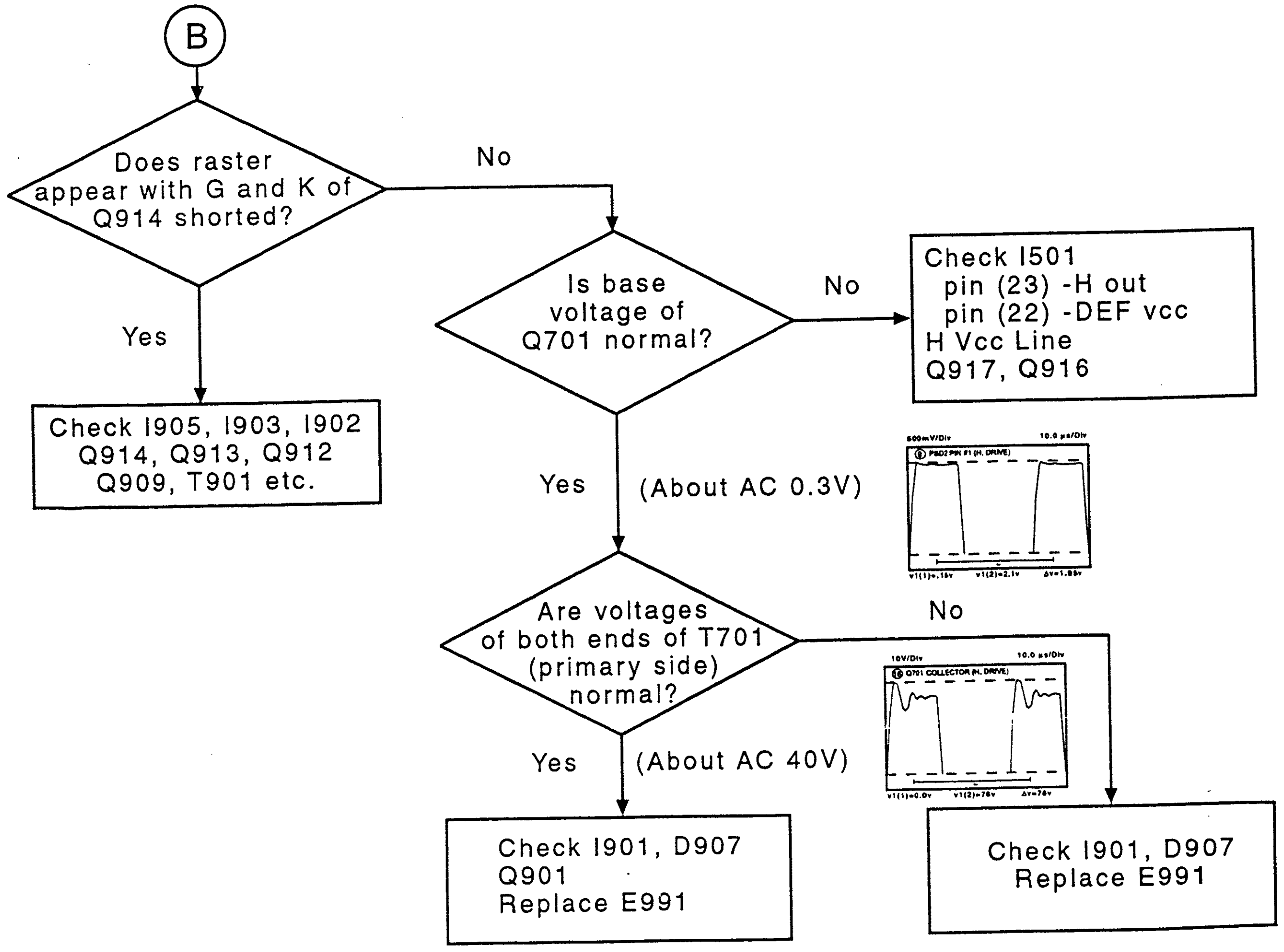

FJ
FV
CONTROL P.W.B.
EFC1
DIMMER CONTROL LIGHT RECEIVER
REMOTE CONTROL LIGHT RECEIVER
POWER LED
AUTO DIGICON (MAGIC FOCUS)
S
V
L
R
CH/BROWSE
VOL/FAV. CH
POWER
INPUT
MENU/ SELECT
VOL/FAV. CH
CH/BROWSE

TROUBLESHOOTING

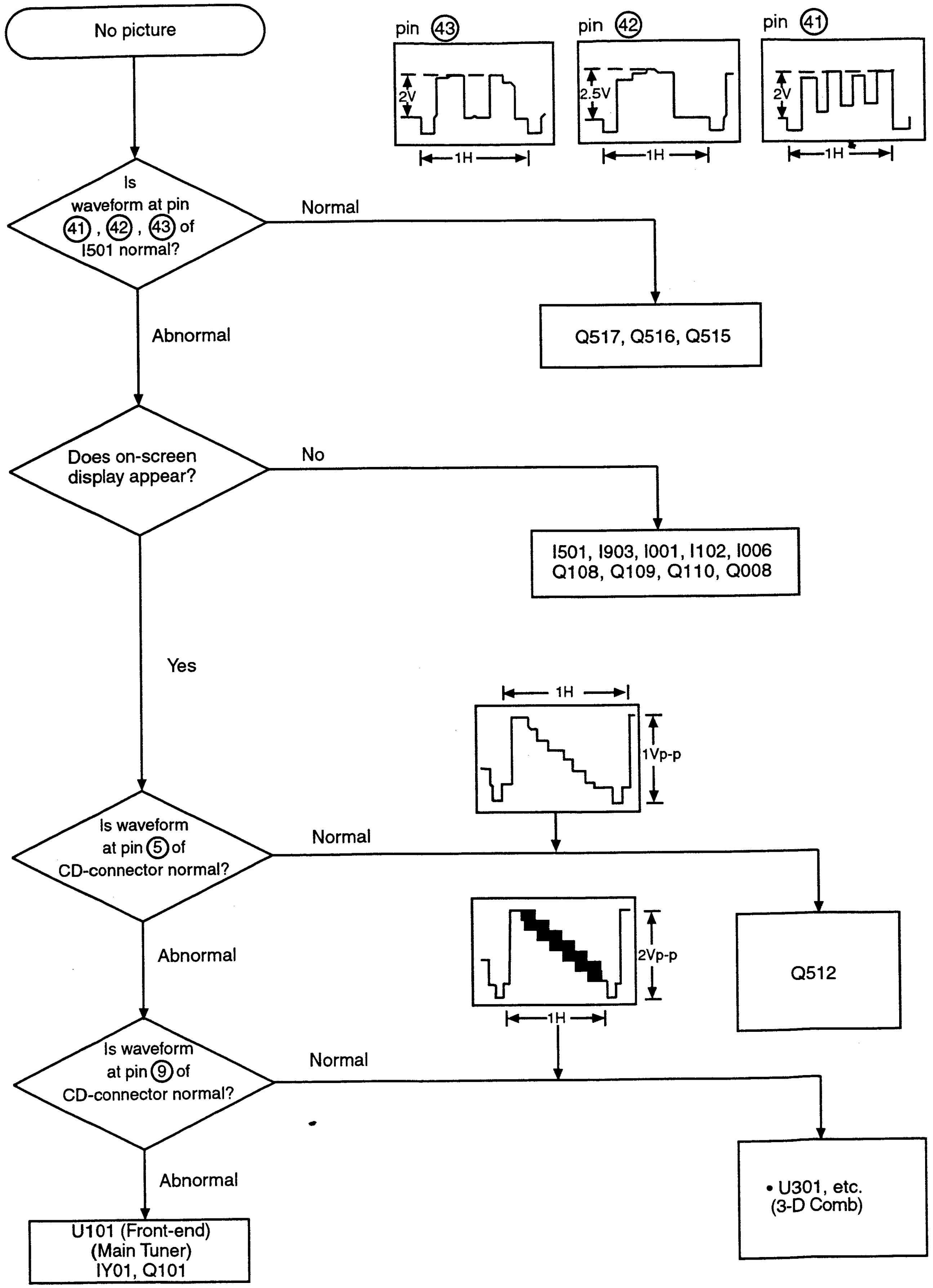
1. No Raster and No Power (REPAIR METHOD)


No raster
Is Power Indicator Red LED "ON"? DM03
No
Yes
Check DIAGNOSIS LED's
Check HV-PROTECT line DN10, DN11
Is Red LED "ON"? PROTECTION D912
No
A
Yes
Check Connector PY1, I501 etc.
How to check DIAGNOSIS LED's.
1. Turn OFF power SW.
2. Turn ON again after several seconds, and carefully observe 7 green and 1 red LED.
Did 7 green LED's turn OFF same time?
No
Yes
B
D964 (A12V) (Should always be on A12V) Check A12V line I910, Q926, I001, I102, IY01, IY02, HM01 etc.
Find which LED's is going to dark or OFF. (Other LED's are going to OFF little bit later same time.)
D940(+B) (Change Brightness, always on) Check +B 120V line E994, Q777, T702, C701 etc.
D939 (TV5V) (Only 2 turned on by power) Check TV5V line I913, Q905 D938, L911 L114, D116 etc.
D946 (TV9V) (Only 2 turned on by power) Check TV9V line I912, Q905 D928, L909 L922 etc.
D966 (+27V) Check +27V line E995, Q902 IK04, IK05 etc.
D967 (-23V) Check -23V line E996, I909 IK04, IK05 etc.
D947 (27V) Check Audio 27V line E992, E997 I401 etc.
D977 (22V) Check Audio 22V line E993, E998 I402,IS11 etc.


A
Is Voltage at pin (5) of I901 10~16V?
No
Check D907, C907, Q901, R905, R906
Yes
Has protector E991 blown
No
Check I901
Yes
Check I901, D911, D910, D969 Replace E991

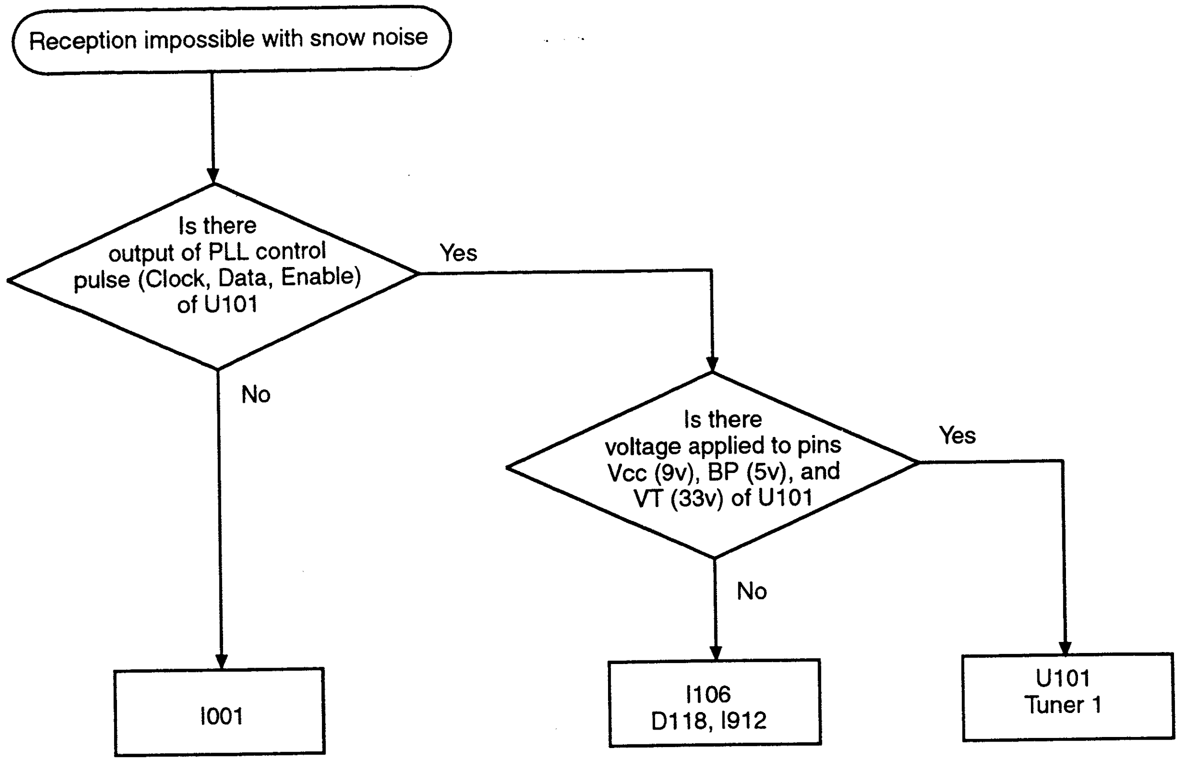

B
Does raster appear with G and K of Q914 shorted?
Yes
Check I905, I903, I902 Q914, Q913, Q912 Q909, T901 etc.
No
Is base voltage of Q701 normal?
No
Check I501 pin (23) -H out pin (22) -DEF vcc H Vcc Line Q917, Q916
Yes
(About AC 0.3V)
Are voltages of both ends of T701 (primary side) normal?
No
Yes
(About AC 40V)
Check I901, D907 Q901 Replace E991
Check I901, D907 Replace E991

2. No Picture

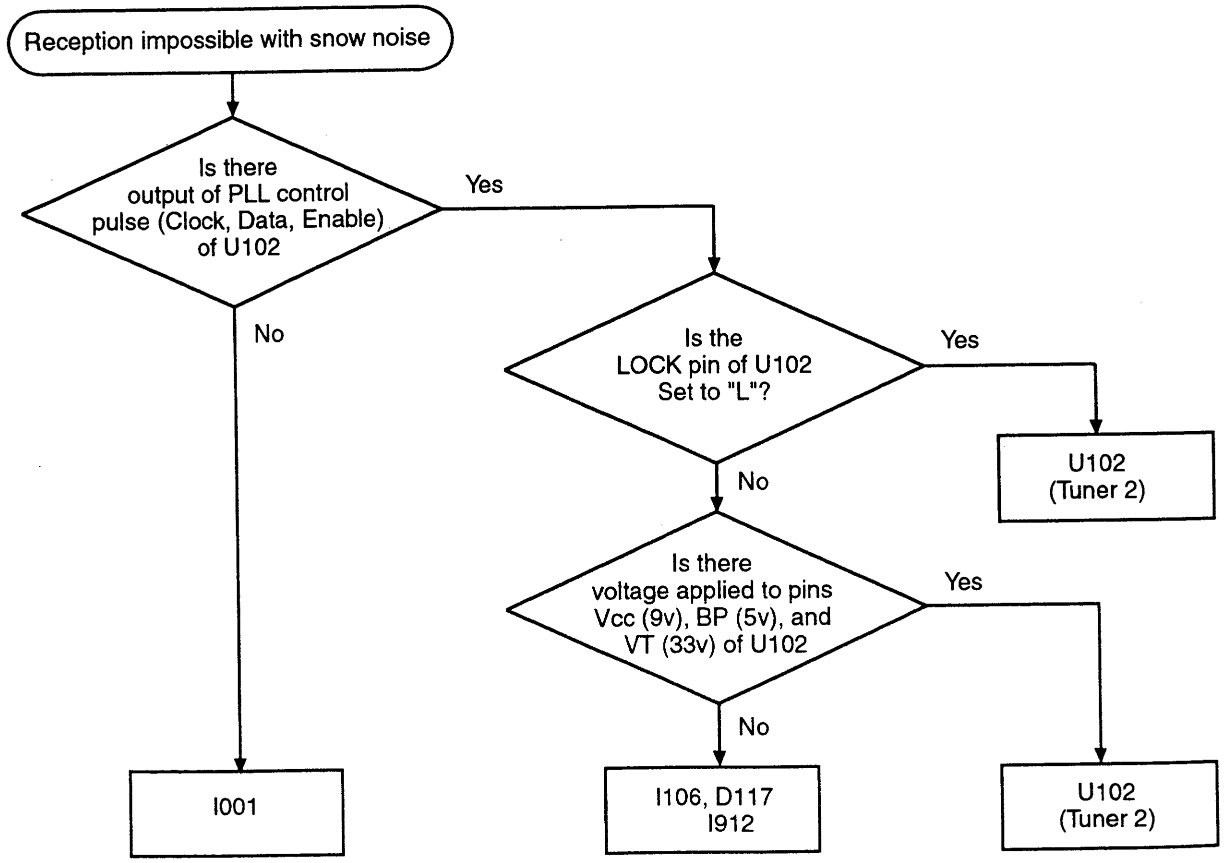

No picture
pin ㊸
pin ㊷
pin ㊶
2V
2.5V
2V
1H
Is waveform at pin ㊶, ㊷, ㊸ of I501 normal?
Normal
Q517, Q516, Q515
Abnormal
Does on-screen display appear?
No
I501, I903, I001, I102, I006 Q108, Q109, Q110, Q008
Yes
1H
1Vp-p
Is waveform at pin ⑤ of CD-connector normal?
Normal
Q512
Abnormal
2Vp-p
1H
Is waveform at pin ⑨ of CD-connector normal?
Normal
• U301, etc. (3-D Comb)
Abnormal
U101 (Front-end) (Main Tuner) IY01, Q101

3. Reception Impossible with Snow Noise

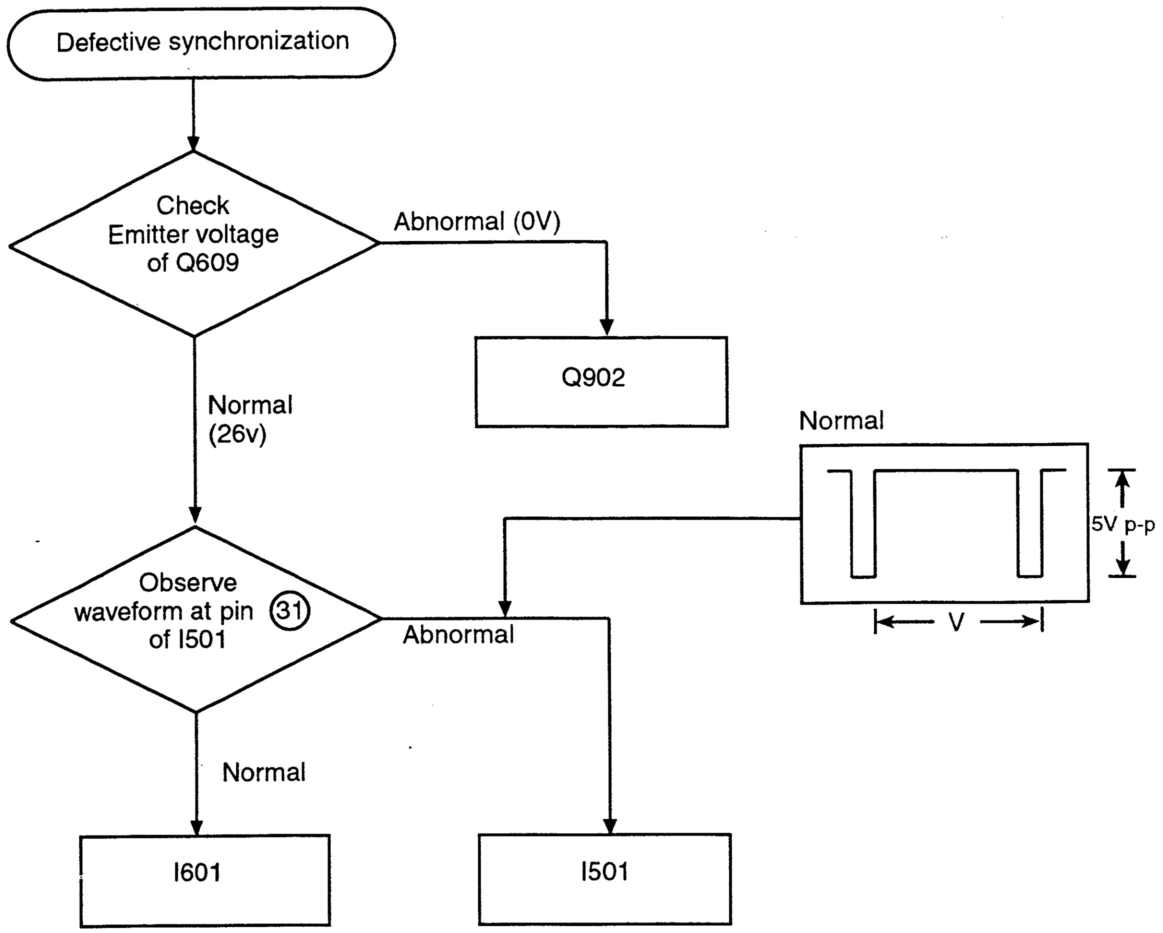
Main Picture


Reception impossible with snow noise
Is there output of PLL control pulse (Clock, Data, Enable) of U101
Yes
No
Is there voltage applied to pins Vcc (9v), BP (5v), and VT (33v) of U101
Yes
No
I001
I106
D118, I912
U101
Tuner 1

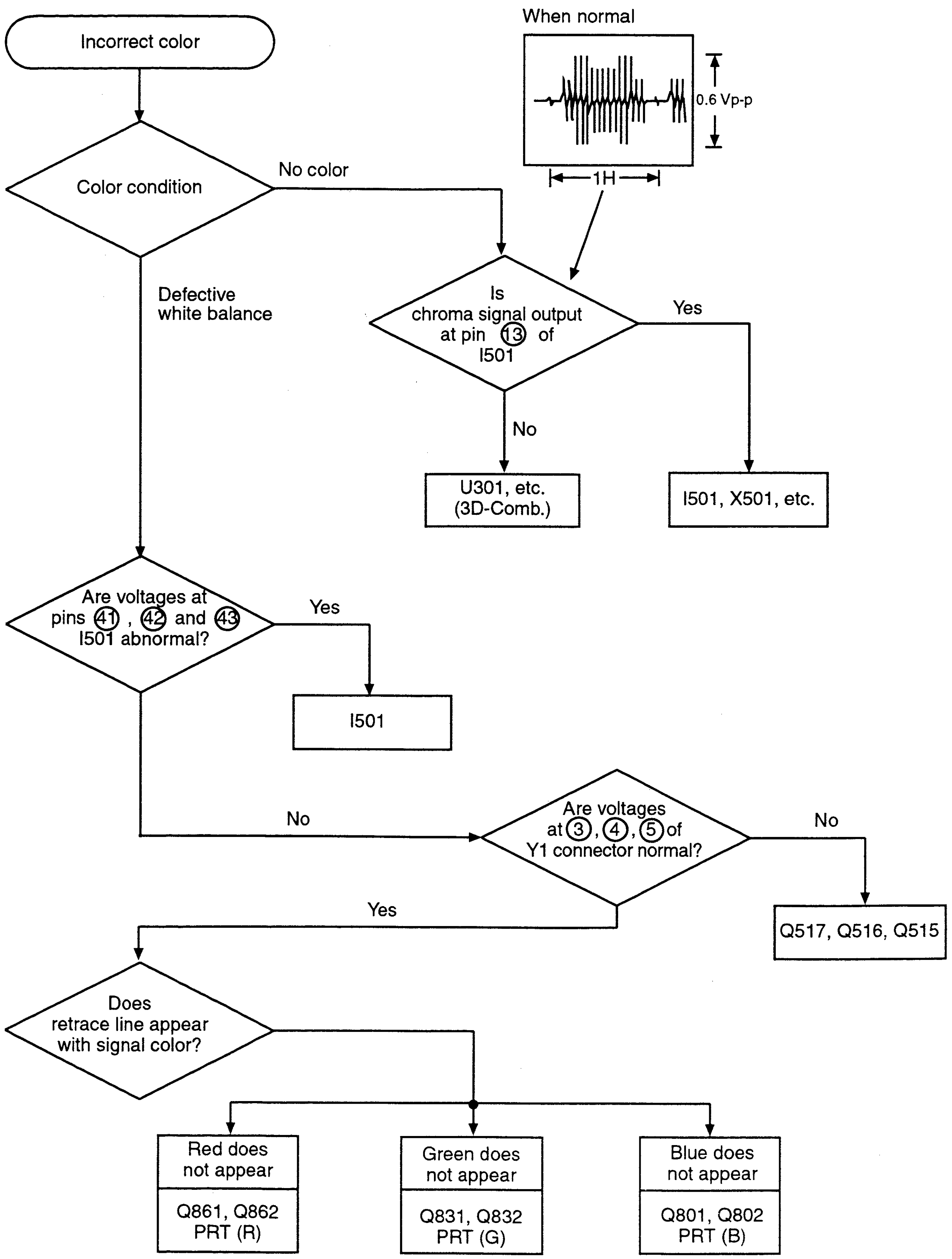
Sub Picture (PIP)


Reception impossible with snow noise
Is there output of PLL control pulse (Clock, Data, Enable) of U102
Yes
No
Is the LOCK pin of U102 Set to "L"?
Yes
No
U102
(Tuner 2)
Is there voltage applied to pins Vcc (9v), BP (5v), and VT (33v) of U102
Yes
No
I001
I106, D117
I912
U102
(Tuner 2)

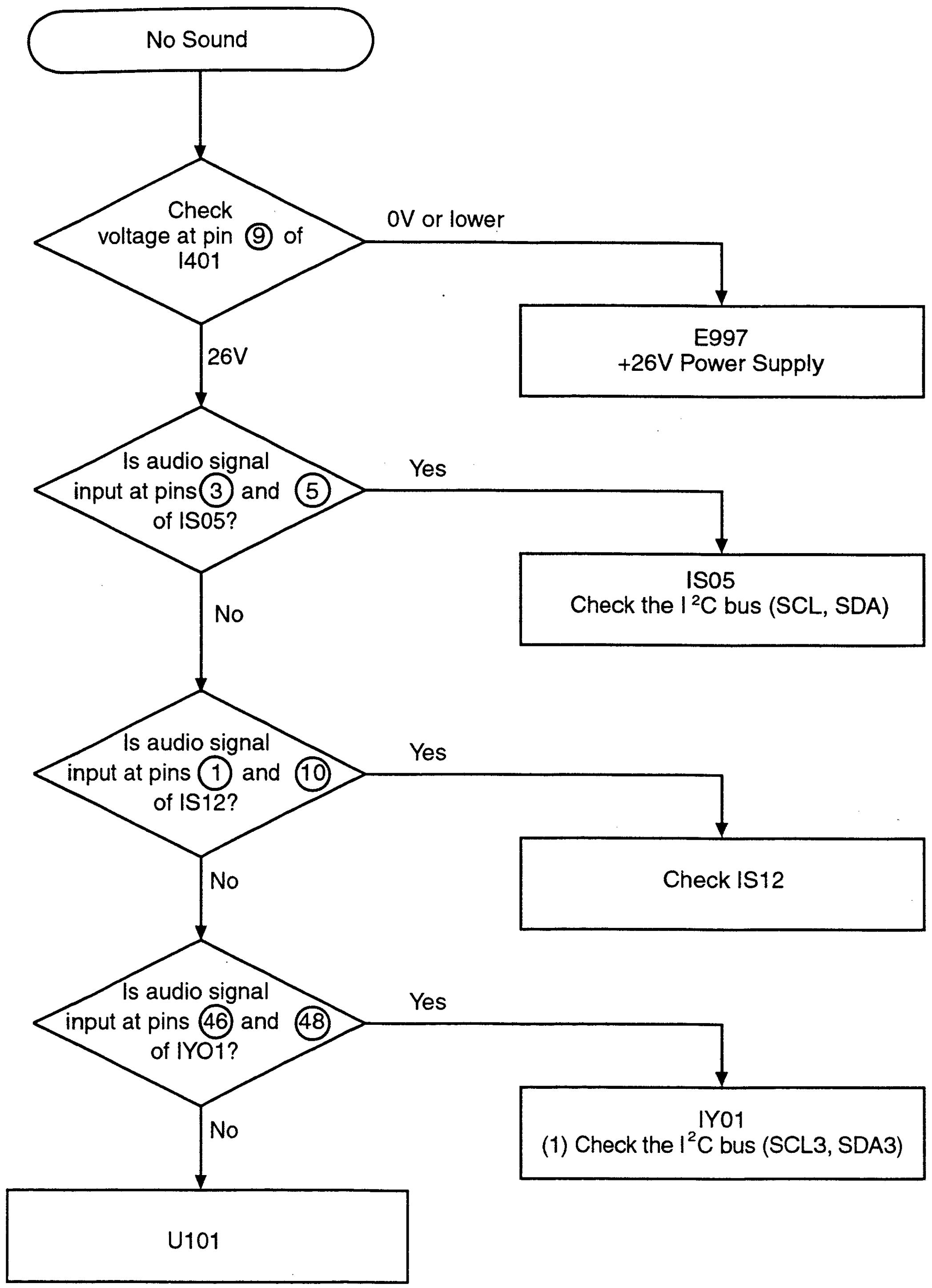
4. Defective Synchronization


Defective synchronization
Check Emitter voltage of Q609
Abnormal (0V)
Q902
Normal
(26v)
Normal
5V p-p
V
Observe waveform at pin ㉛ of I501
Abnormal
Normal
I601
I501

5. Incorrect Color

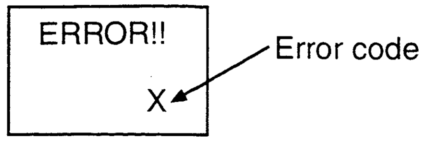

Incorrect color
Color condition
No color
Defective white balance
When normal
0.6 Vp-p
1H
Is chroma signal output at pin ⑬ of I501
Yes
No
U301, etc. (3D-Comb.)
I501, X501, etc.
Are voltages at pins ㊶ , ㊷ and ㊸ I501 abnormal?
Yes
I501
No
Are voltages at ③, ④, ⑤ of Y1 connector normal?
No
Q517, Q516, Q515
Yes
Does retrace line appear with signal color?
Red does not appear
Q861, Q862 PRT (R)
Green does not appear
Q831, Q832 PRT (G)
Blue does not appear
Q801, Q802 PRT (B)

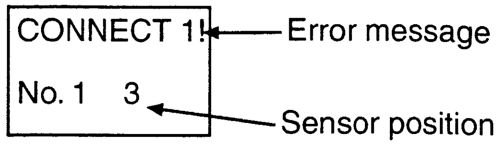
6. No Sound


No Sound
Check voltage at pin ⑨ of I401
0V or lower
E997 +26V Power Supply
26V
Is audio signal input at pins ③ and ⑤ of IS05?
Yes
IS05 Check the I²C bus (SCL, SDA)
No
Is audio signal input at pins ① and ⑩ of IS12?
Yes
Check IS12
No
Is audio signal input at pins ㊻ and ㊽ of IYO1?
Yes
IY01 (1) Check the I²C bus (SCL3, SDA3)
No
U101

7. Convergence Errors.
If an error message or code appears while performing MAGIC FOCUS or Initialize (MOVE, PIP CH in service mode) follow this confirmation and repair method.

1. Turn on power and receive any signal.
2. Press service switch on Power/Defleciton board.
3. Press "SWAP" then "PIP CH" on remote control.
4. Error code will be displayed in bottom right corner of screen. If there is no error, and "INITIAL OK" message will appear on screen.


ERROR!!
X
Error code


CONNECT 1!
No. 1 3
Error message
Sensor position

5. Follow repair table for errors.

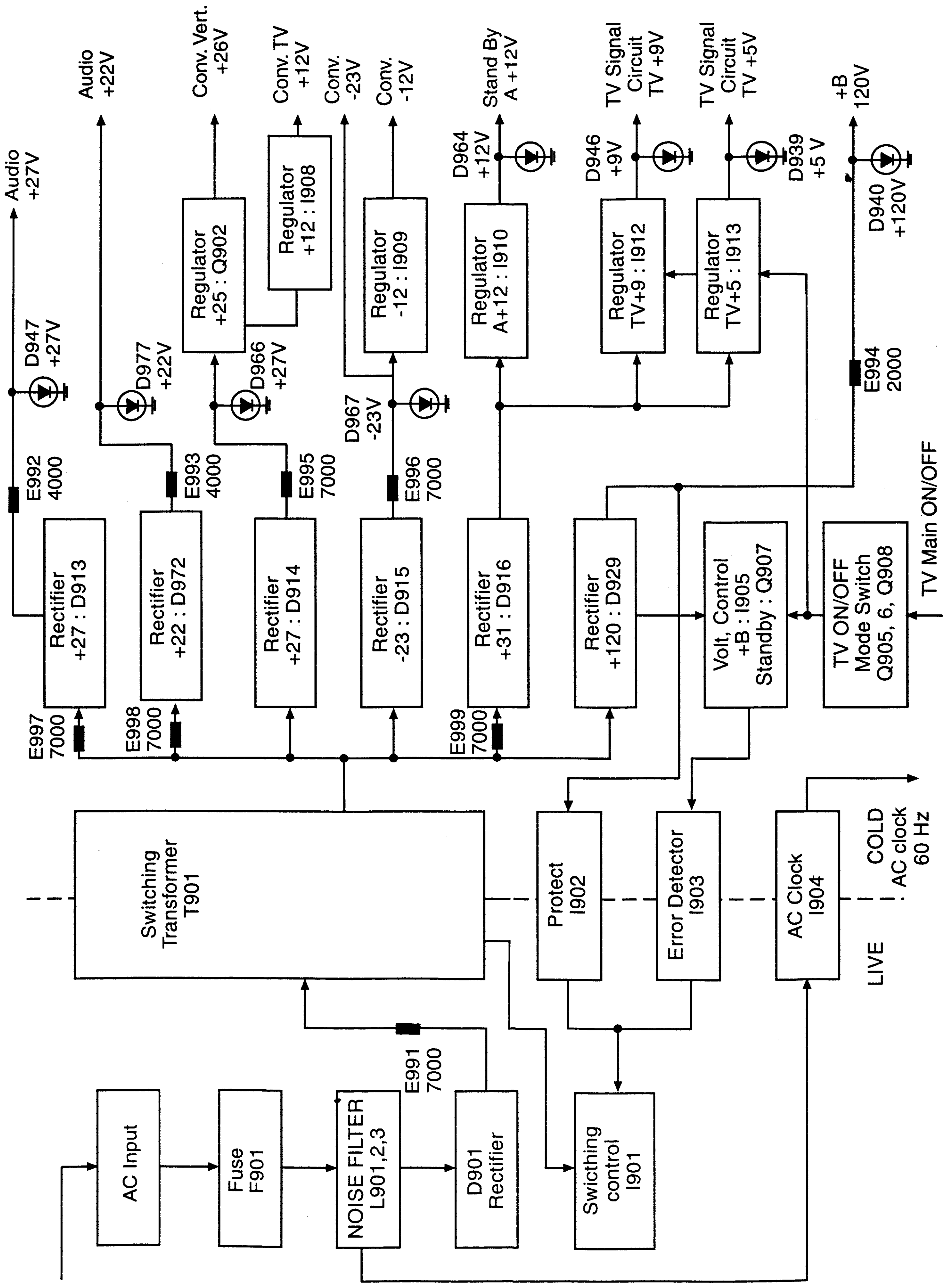
DCU REPAIR TABLE

Error Code	Error Message	Countermeasure	Application	
			Initialize	Magic Focus
1	VF Error	Replace DCU	X	X
2 *2	Connect 1	1. Darken Outside light 2. Placing of sensor 3. Is pattern hitting sensor 4. Check connection and solder bridge of sensor 5. Replace sensor 6. Replace sensor P.W.B. 7. Sensor Connector check 8. Replace DCU 9. Adjustment check (H/V size, centering)	X	--
3*2	A/D Level	Same as Error Code 2	X	X
4	Over Flow	1. Check the placement of sensor 2. Adjustment check (H/V size, centering) 3. Conv. amp. gain check *1 (check resistor values only)	X	X
5	Convergence	Same as Error Code 4	X	X
7	Operation	Same as Error Code 4	--	X
9	Connect 2	Same as Error Code 2	X	X
10	Noise	Input strong field strength signal Check the wiring of connector between sensor and DCU	X	X
11	Sync	Input strong field strength signal Input standard signal NTSC	X	X

*1 -- RK 42, 46, 50, 54, 58, 62 check these resistors.
*2 Sensor Position

0	1	2
7		3
6	5	4

(View from front side)


Audio +27V
Audio +22V
Conv. Vert. +26V
Conv. TV +12V
Conv. -23V
Conv. -12V
Stand By A +12V
TV Signal Circuit TV +9V
TV Signal Circuit TV +5V
+B 120V
D947 +27V
D977 +22V
D966 +27V
D967 -23V
D964 +12V
D946 +9V
D939 +5 V
D940 +120V
Regulator +25 : Q902
Regulator +12 : I908
Regulator -12 : I909
Regulator A+12 : I910
Regulator TV+9 : I912
Regulator TV+5 : I913
E992 4000
E993 4000
E995 7000
E996 7000
E994 2000
Rectifier +27 : D913
Rectifier +22 : D972
Rectifier +27 : D914
Rectifier -23 : D915
Rectifier +31 : D916
Rectifier +120 : D929
Volt, Control +B : I905 Standby : Q907
TV ON/OFF Mode Switch Q905, 6, Q908
TV Main ON/OFF
E997 7000
E998 7000
E999 7000
Switching Transformer T901
Protect I902
Error Detector I903
AC Clock I904
COLD AC clock 60 Hz
LIVE
E991 7000
AC Input
Fuse F901
NOISE FILTER L901,2,3
D901 Rectifier
Swicthing control I901

PROTECTION CIRCUIT BLOCK DIAGRAM

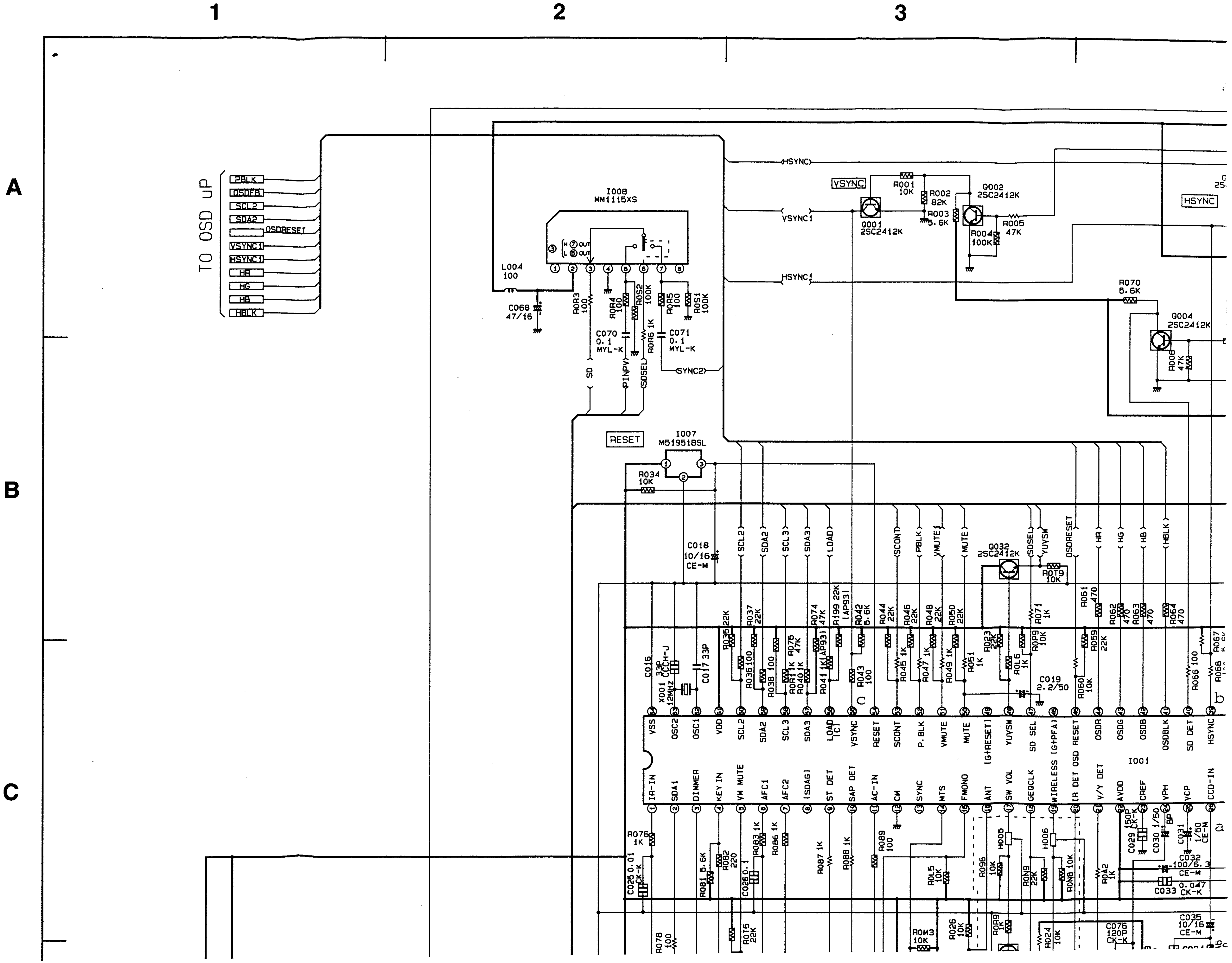
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC

Circuit No.	Pin No.	Voltage DC
I001	1	0
	2	0
	3	3
	4	5.2
	5	0
	6	3.5
	7	1.9
	8	0
	9	0
	10	0
	11	2.4
	12	0
	13	2.4
	14	4.8
	15	4.8
	16	5.2
	17	0
	18	0
	19	0
	20	0
	21	0
	22	5.2
	23	0
	24	2.8
	25	1.2
	26	2.2
	27	0
	28	4.9
	29	4.9
	30	0.2
	31	0
	32	5.2
	33	5.1
	34	0
	35	5.1
	36	5.1
I001	37	5.1
	38	0
	39	4.6
	40	4.4
	41	0
	42	0
	43	0
	44	0
	45	0
	46	5.2
	47	3.5
	48	0
	49	0
	50	0
	51	0
	52	0
	53	2.2
	54	2.8
	55	5.0
	56	0
	57	4.9
	58	4.9

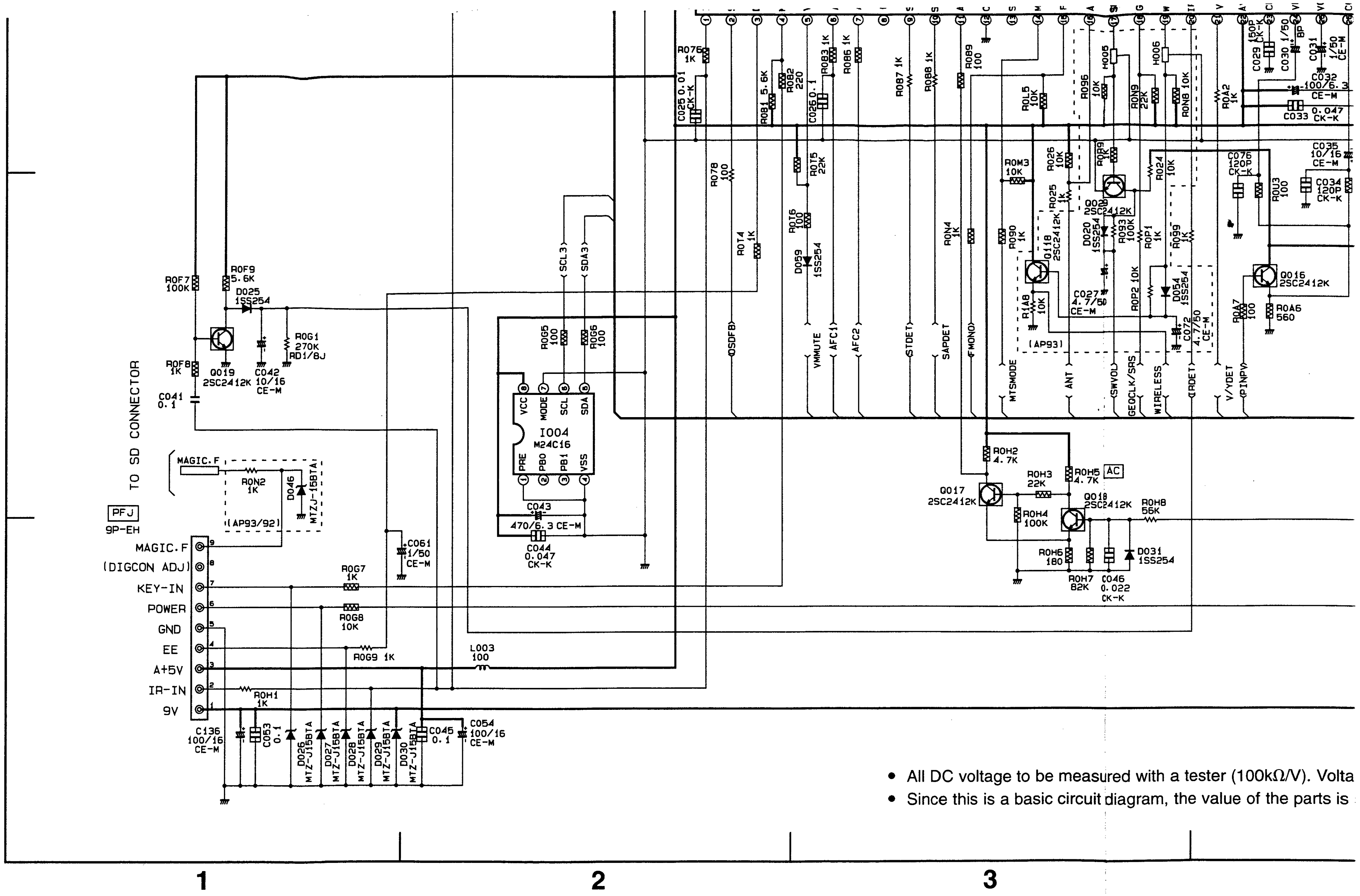
Circuit No.	Pin No.	Voltage DC
I007	1	5.2
	2	0
	3	5.2
I008	1	0
	2	9.3
	3	2.7
	4	0
	5	3.5
	6	2.9
	7	3.4
	8	0

Circuit No.	Pin Name	Voltage DC
Q001	E	0
	B	0
	C	4.9
Q002	E	0.5
	B	0
	C	0.2
Q004	E	0
	B	0.1
	C	4.7
Q005	E	0
	B	0
	C	4.5
Q006	E	2.5
	B	2.6
	C	0.4
Q009	E	0
	B	0
	C	5.3
Q011	E	0
	B	0
	C	5.1
Q013	E	0
	B	0
	C	5.2
Q014	E	11.9
	B	11.7
	C	0
Q015	E	0
	B	0
	C	1.6
Q016	E	4.6
	B	5.2
	C	9.3
Q017	E	0.2
	B	0.6
	C	2.4
Q018	E	0.2
	B	0.4
	C	2.6
	E	0

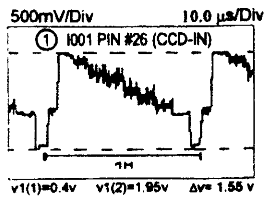

1
2
3
A
B
C
TO OSD uP
PBLK
OSDFB
SCL2
SDA2
OSDRESET
VSYNC1
HSYNC1
HR
HG
HB
HBLK
I008
MM1115XS
L004 100
C068 47/16
C070 0.1 MYL-K
C071 0.1 MYL-K
SD
PINPV
SDSEL
SYNC2
HSYNC
VSYNC1
HSYNC1
VSYNC
R001 10K
R002 82K
R003 5.6K
R004 100K
R005 47K
Q001 2SC2412K
Q002 2SC2412K
Q004 2SC2412K
R070 5.6K
R008 47K
HSYNC
RESET
I007
M51951BSL
R034 10K
C018 10/16 CE-M
Q032 2SC2412K
R019 10K
SCL2
SDA2
SCL3
SDA3
LOAD
SCONT
PBLK
VMUTE
MUTE
SDSEL
YUVSW
OSDRESET
HR
HG
HB
HBLK
X001 12MHz
C016 33P
C017 33P
I001
VSS
OSC2
OSC1
VDD
SCL2
SDA2
SCL3
SDA3
LOAD (CT)
VSYNC
RESET
SCONT
P.BLK
VMUTE
MUTE
(G+RESET)
YUVSW
SD SEL
(G+PFA)
OSD RESET
OSDR
OSDG
OSDB
OSDBLK
SD DET
HSYNC
IR-IN
SDA1
DIMMER
KEY IN
VM MUTE
AFC1
AFC2
(SDAG)
ST DET
SAP DET
AC-IN
CM
SYNC
MTS
FMONO
ANT
SW VOL
GEOCLK
WIRELESS
IR DET
V/Y DET
AVDD
CREF
VPH
VCP
CCD-IN
C019 2.2/50
C025 0.01 CK-K
C026 0.1
C029 150P
C030 1/50
C031 1/50 CE-M
C032 100/6.3 CE-M
C033 0.047 CK-K
C035 10/16 CE-M
C076 120P CK-K

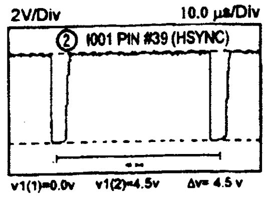
I001	50	0
	51	0
	52	0
	53	2.2
	54	2.8
	55	5.0
	56	0
	57	4.9
	58	4.9
	59	5.2
	60	5.2
	61	5.2
	62	2.4
	63	2.3
	64	0
I004	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	5.2

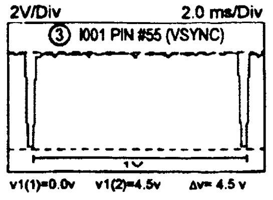
Q016	B	5.2
	C	9.3
Q017	E	0.2
	B	0.6
	C	2.4
Q018	E	0.2
	B	0.4
	C	2.6
Q019	E	0
	B	0.7
	C	0
Q026	E	5.2
	B	5.7
	C	11.8
Q027	E	0
	B	0
	C	5.1
Q028	E	0
	B	0
	C	11.7
Q032	E	0
	B	0
	C	5.3


D
E
1
2
3
TO SD CONNECTOR
PFJ
9P-EH
MAGIC.F
(DIGCON ADJ)
KEY-IN
POWER
GND
EE
A+5V
IR-IN
9V
MAGIC.F
RON2 1K
D046 MTZJ-15BTA
(AP93/92)
R0F7 100K
R0F9 5.6K
D025 1SS254
R0G1 270K RD1/8J
R0F8 1K
Q019 2SC2412K
C042 10/16 CE-M
C041 0.1
C061 1/50 CE-M
R0G7 1K
R0G8 10K
R0G9 1K
R0H1 1K
C136 100/16 CE-M
C053 0.1
D026 MTZ-J15BTA
D027 MTZ-J15BTA
D028 MTZ-J15BTA
D029 MTZ-J15BTA
D030 MTZ-J15BTA
C045 0.1
C054 100/16 CE-M
L003 100
R0G5 100
R0G6 100
VCC
MODE
SCL
SDA
I004
M24C16
PRE
PB0
PB1
VSS
C043 470/6.3 CE-M
C044 0.047 CK-K
SCL3
SDA3
R076 1K
C025 0.01 CK-K
R078 100
R081 5.6K
R082 220
C026 0.1
R083 1K
R086 1K
R087 1K
R088 1K
R089 100
R074 1K
R0T5 22K
R0T6 100
D059 1SS254
QSDFB
VMMUTE
AFC1
AFC2
STDET
SAPDET
FMONO
MTSMODE
ANT
SWVOL
GEOCLK/SRS
WIRELESS
RDET
V/YDET
PINPV
R0N4 1K
R0M3 10K
R090 1K
R0L5 10K
R096 10K
H005
R0N9 22K
H006
R0N8 10K
R0A2 1K
R026 10K
R025 1K
R099 1K
Q026 2SC2412K
R024 10K
D020 1SS254
R093 100K
R0P1 1K
R098 1K
Q118 2SC2412K
R1A8 10K
C027 4.7/50 CE-M
R0P2 10K
D054 1SS254
C072 4.7/50 CE-M
(AP93)
C029 150P CK-K
C030 1/50 BP
C031 1/50 CE-M
C032 100/6.3 CE-M
C033 0.047 CK-K
C076 120P CK-K
R0U3 100
C035 10/16 CE-M
C034 120P CK-K
Q016 2SC2412K
R0A7 100
R0A6 560
R0H2 4.7K
R0H5 4.7K
AC
R0H3 22K
Q017 2SC2412K
Q018 2SC2412K
R0H4 100K
R0H8 56K
R0H6 180
D031 1SS254
R0H7 82K
C046 0.022 CK-K

- All DC voltage to be measured with a tester (100kΩ/V). Volta
- Since this is a basic circuit diagram, the value of the parts is

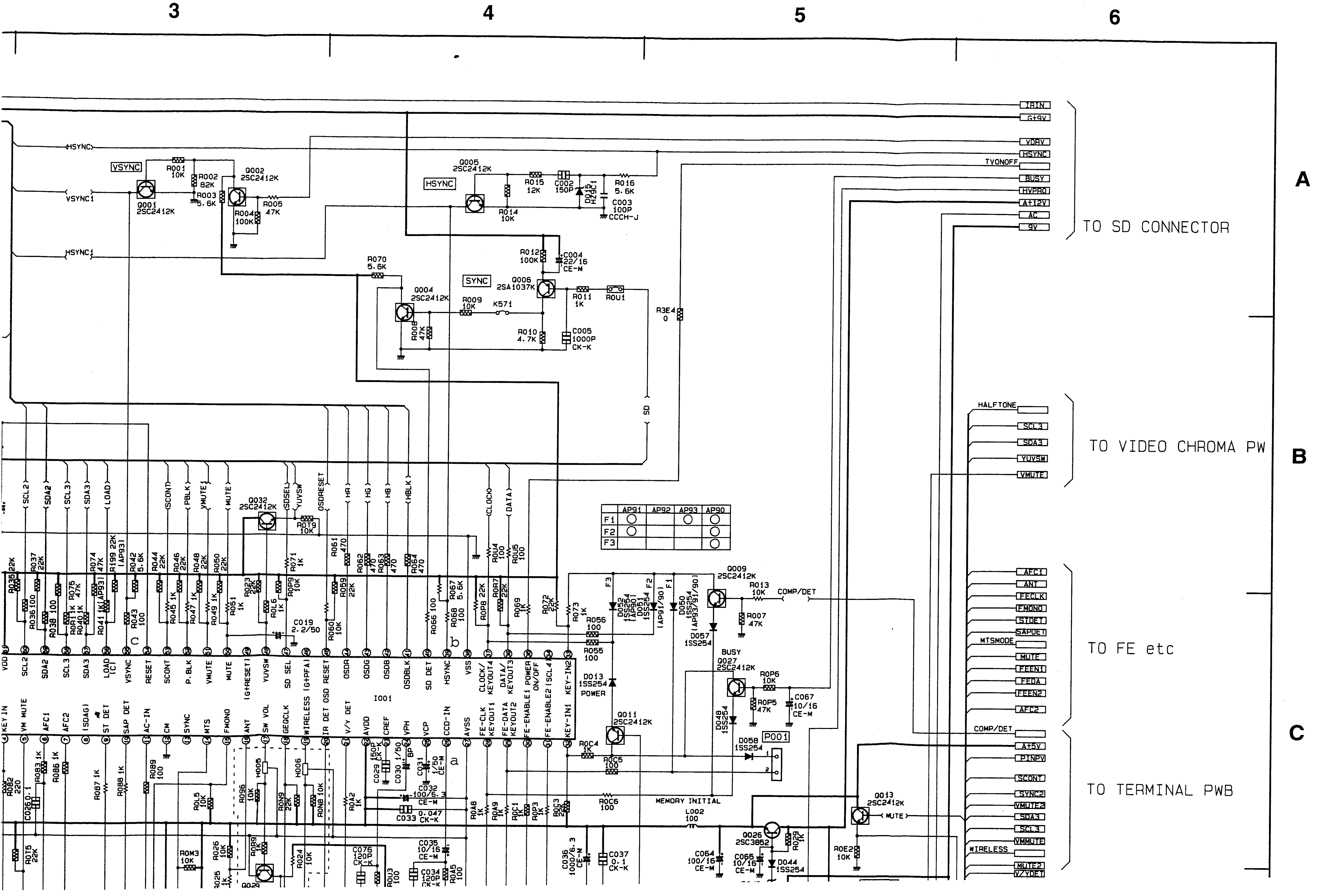




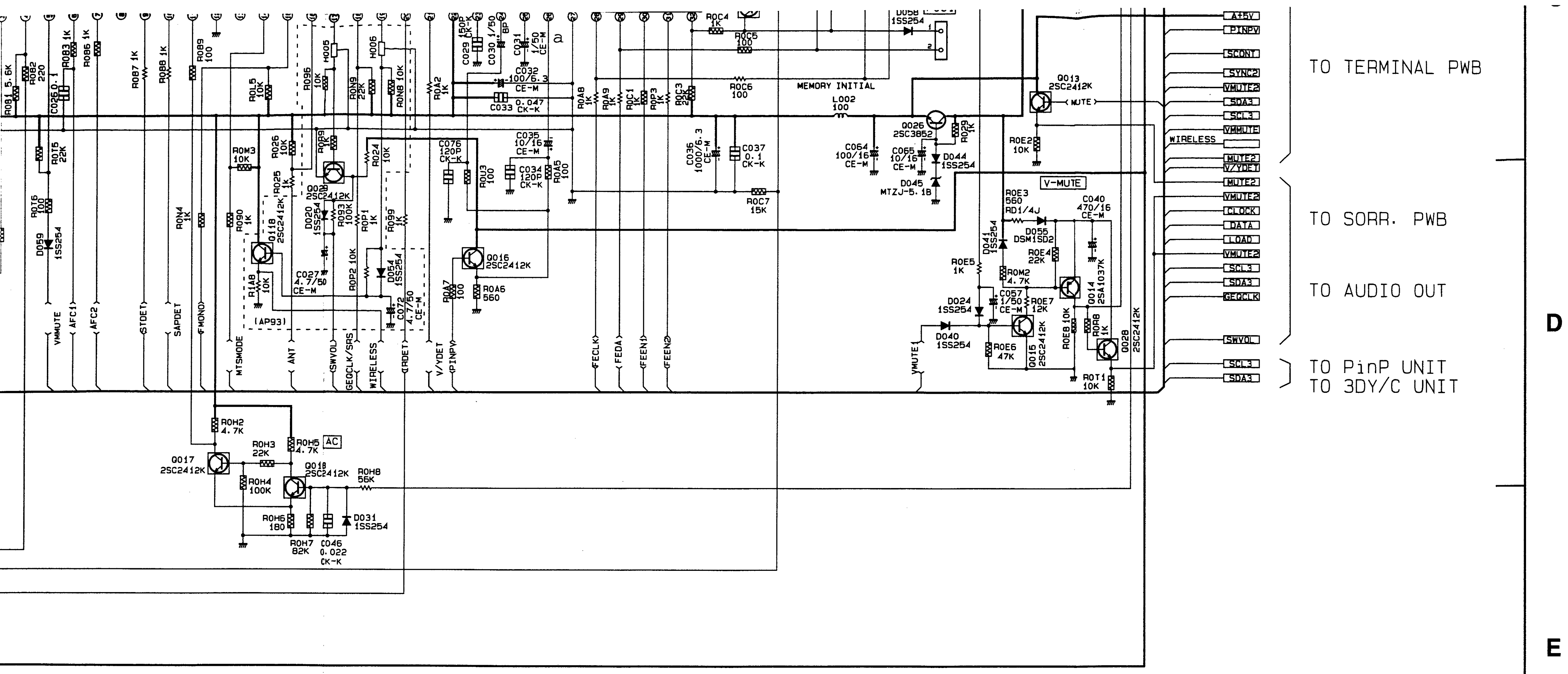


BASIC CIRCUIT DIAGRAM

SIGNAL 1/4
SIGNAL 2/4


3
4
5
6
A
B
C
TO SD CONNECTOR
TO VIDEO CHROMA PW
TO FE etc
TO TERMINAL PWB
IRIN
G+9V
VDRV
HSYNC
TVONOFF
BUSY
HVPRO
A+12V
AC
9V
HALFTONE
SCL3
SDA3
YUVSW
VMUTE
AFC1
ANT
FECLK
FMONO
STDET
SAPDET
MTSMODE
MUTE
FEEN1
FEDA
FEEN2
AFC2
COMP/DET
A+5V
PINPV
SCONT
SYNC2
VMUTE2
SDA3
SCL3
VMMUTE
WIRELESS
MUTE2
V/YDET
VSYNC
VSYNC1
HSYNC1
SYNC
Q001 2SC2412K
Q002 2SC2412K
Q004 2SC2412K
Q005 2SC2412K
Q006 2SA1037K
Q009 2SC2412K
Q011 2SC2412K
Q013 2SC2412K
Q026 2SC3852
Q027 2SC2412K
Q032 2SC2412K
D015 HZ9C1
D013 1SS254 POWER
D044 1SS254
D048 1SS254
D050 1SS254 (AP93/91/90)
D051 1SS254 (AP91/90)
D052 1SS254 (AP90)
D057 1SS254
D058 1SS254
K571
P001
L002 100
MEMORY INITIAL
COMP/DET
BUSY
MUTE
SD
I001
VDD
SCL2
SDA2
SCL3
SDA3
LOAD (C)
VSYNC
RESET
SCONT
P.BLK
VMUTE
MUTE
(G+RESET)
YUVSW
SD SEL
(G+PFA)
OSD RESET
OSDR
OSDG
OSDB
OSDBLK
SD DET
HSYNC
VSS
CLOCK/KEYOUT4
DATA/KEYOUT3
FE-ENABLE1 POWER ON/OFF
FE-ENABLE2 (SCL4)
KEY-IN2
KEY IN
VM MUTE
AFC1
AFC2
(SDAG)
ST DET
SAP DET
AC-IN
CM
SYNC
MTS
FMONO
ANT
SW VOL
GEOCLK
WIRELESS
IR DET
V/Y DET
AVDD
CREF
VPH
VCP
CCD-IN
AVSS
FE-CLK KEYOUT1
FE-DATA KEYOUT2
FE-ENABLE1
FE-ENABLE2
KEY-IN1
a
b
c
R001 10K
R002 82K
R003 5.6K
R004 100K
R005 47K
R007 47K
R008 47K
R009 10K
R010 4.7K
R011 1K
R012 100K
R013 10K
R014 10K
R015 12K
R016 5.6K
R070 5.6K
R3E4 0
R0U1
C002 150P
C003 100P CCCH-J
C004 22/16 CE-M
C005 1000P CK-K
C019 2.2/50
C026 0.1
C029 150P CK-K
C030 1/50 BP
C031 1/50 CE-M
C032 100/6.3
C033 0.047 CK-K
C034 120P CK-K
C035 10/16 CE-M
C036 1000/6.3 CE-M
C037 0.1 CK-K
C064 100/16 CE-M
C065 10/16 CE-M
C067 10/16 CE-M
C076 120P CK-K
H005
H006
R055 100
R056 100
R0P5 47K
R0P6 10K
R0C4 1K
R0C5 100
R0C6 100
R0E2 10K
R029 1K
F1
F2
F3

	AP91	AP92	AP93	AP90
F1	○		○	○
F2	○			○
F3				○

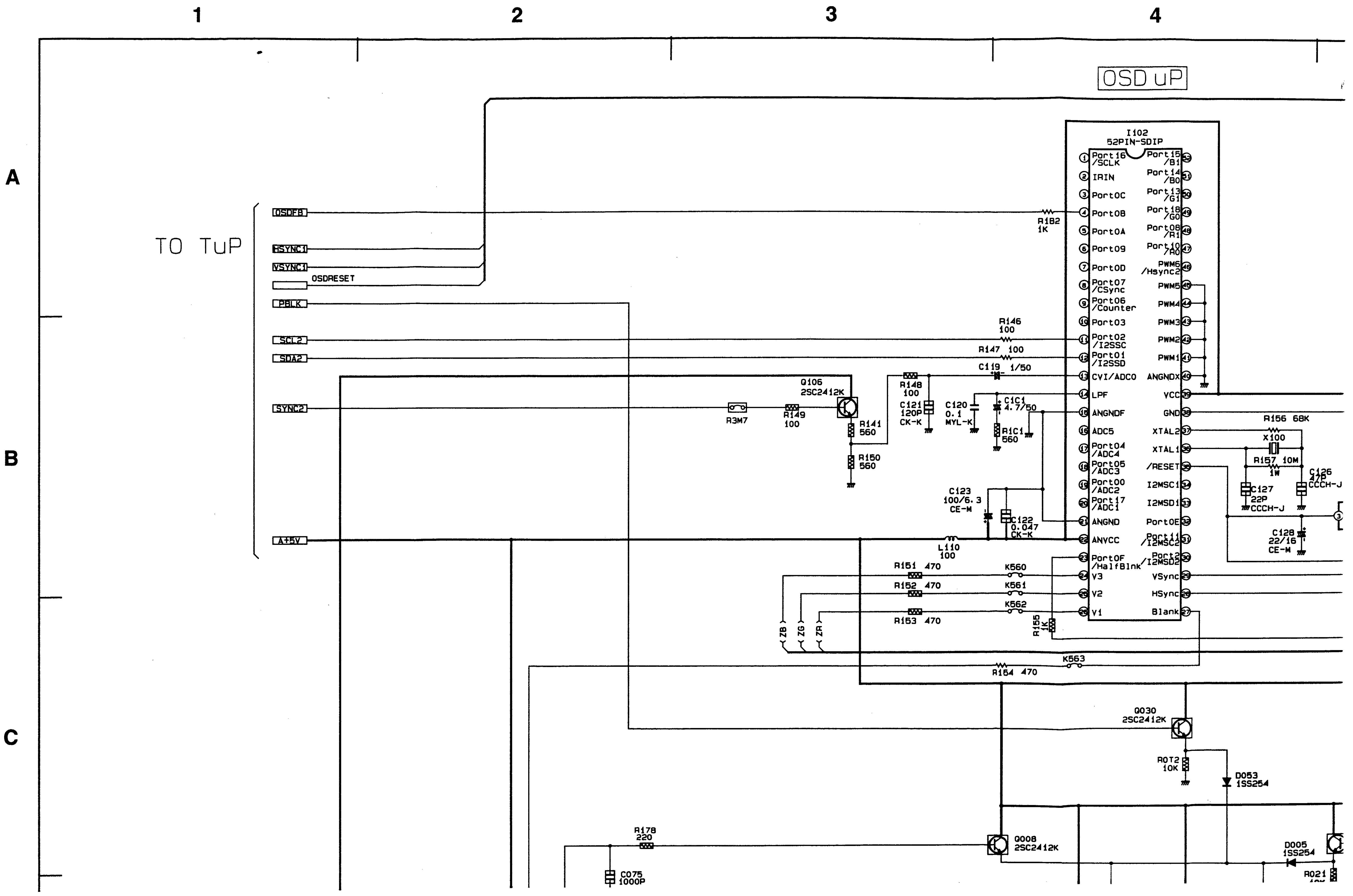

TO TERMINAL PWB
TO SORR. PWB
TO AUDIO OUT
TO PinP UNIT
TO 3DY/C UNIT
A+5V
PINPV
SCONT
SYNC2
VMUTE2
SDA3
SCL3
VMMUTE
WIRELESS
MUTE2
V/YDET
CLOCK
DATA
LOAD
GEQCLK
SWVOL
MEMORY INITIAL
V-MUTE
MUTE
AC
(AP93)
VMMUTE
AFC1
AFC2
STDET
SAPDET
MONO
MTSMODE
ANT
SWVOL
GEQCLK/SRS
WIRELESS
RDET
V/YDET
PINPV
FECLK
FEDA
FEEN1
FEEN2
VMUTE
Q013 2SC2412K
Q014 2SA1037K
Q015 2SC2412K
Q016 2SC2412K
Q017 2SC2412K
Q018 2SC2412K
Q026 2SC3852
Q028 2SC2412K
Q029 2SC2412K
Q118 2SC2412K
L002 100
D
E

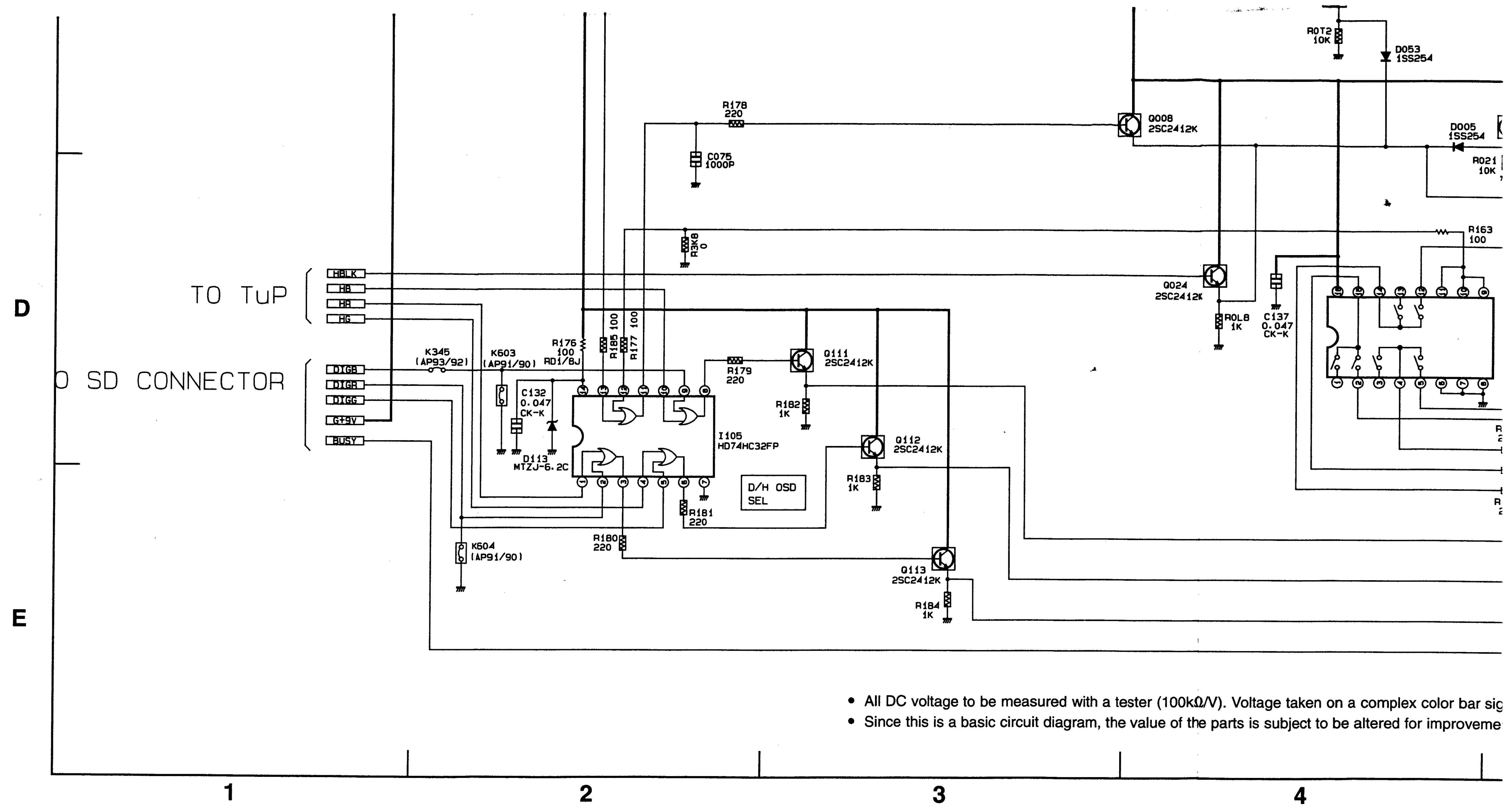
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

SIGNAL P.W.B. 1/4

3 4 5 6

BASIC CIRCUIT DIAGRAM

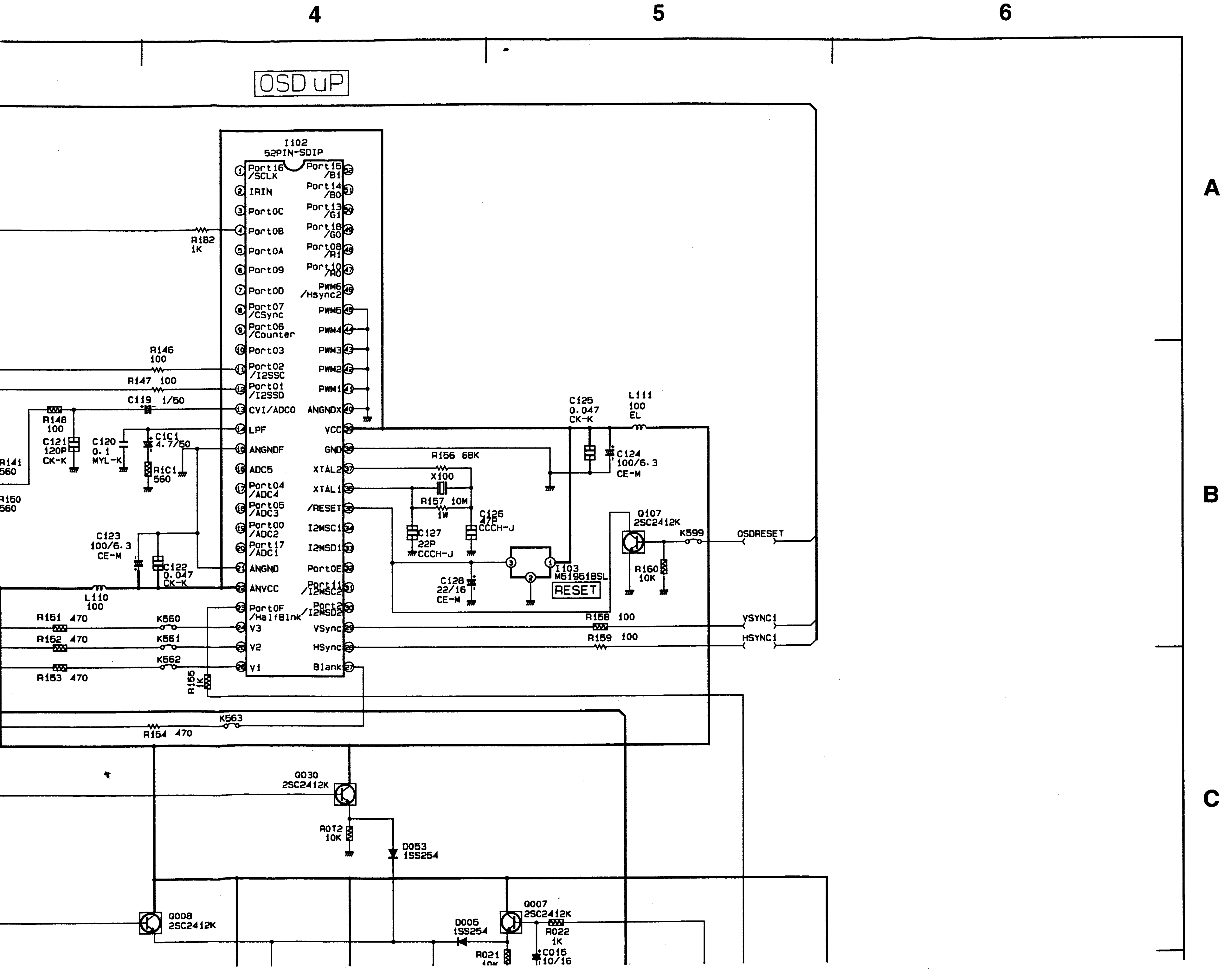

1
2
3
4
A
B
C
OSD uP
TO TuP
OSDFB
HSYNC1
VSYNC1
OSDRESET
PBLK
SCL2
SDA2
SYNC2
A+5V
I102
52PIN-SDIP
Port16 /SCLK
IRIN
Port0C
Port08
Port0A
Port09
Port0D
Port07 /CSync
Port06 /Counter
Port03
Port02 /I2SSC
Port01 /I2SSD
CVI/ADC0
LPF
ANGNDF
ADC5
Port04 /ADC4
Port05 /ADC3
Port00 /ADC2
Port17 /ADC1
ANGND
ANVCC
Port0F /HalfBlnk
V3
V2
V1
Port15 /B1
Port14 /B0
Port13 /G1
Port18 /G0
Port08 /R1
Port10 /R0
PWM6 /Hsync2
PWM5
PWM4
PWM3
PWM2
PWM1
ANGNDX
VCC
GND
XTAL2
XTAL1
/RESET
I2MSC1
I2MSD1
Port0E
Port11 /I2MSC2
Port2 /I2MSD2
VSync
HSync
Blank
R182 1K
R146 100
R147 100
C119 1/50
R148 100
Q106 2SC2412K
C121 120P CK-K
C120 0.1 MYL-K
C1C1 4.7/50
R1C1 560
R3M7
R149 100
R141 560
R150 560
C123 100/6.3 CE-M
C122 0.047 CK-K
L110 100
R151 470
R152 470
R153 470
K560
K561
K562
R155 1K
ZB
ZG
ZR
K563
R164 470
R156 68K
X100
R157 10M 1W
C126 47P CCCH-J
C127 22P CCCH-J
C128 22/16 CE-M
Q030 2SC2412K
R0T2 10K
D053 1SS254
R178 220
C075 1000P
Q008 2SC2412K
D005 1SS254
R021


D
E
1
2
3
4
TO TuP
HBLK
HB
HR
HG
O SD CONNECTOR
DIGB
DIGR
DIGG
G+9V
BUSY
K345
(AP93/92)
K603
(AP91/90)
K604
(AP91/90)
C132
0.047
CK-K
D113
MTZJ-6.2C
R176
100
RD1/8J
R185 100
R177 100
R3K8
0
R178
220
C075
1000P
R179
220
R180
220
R181
220
I105
HD74HC32FP
D/H OSD
SEL
Q111
2SC2412K
R182
1K
Q112
2SC2412K
R183
1K
Q113
2SC2412K
R184
1K
Q008
2SC2412K
Q024
2SC2412K
R0L8
1K
C137
0.047
CK-K
R0T2
10K
D053
1SS254
D005
1SS254
R021
10K
R163
100

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar sig
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improveme

GRAM

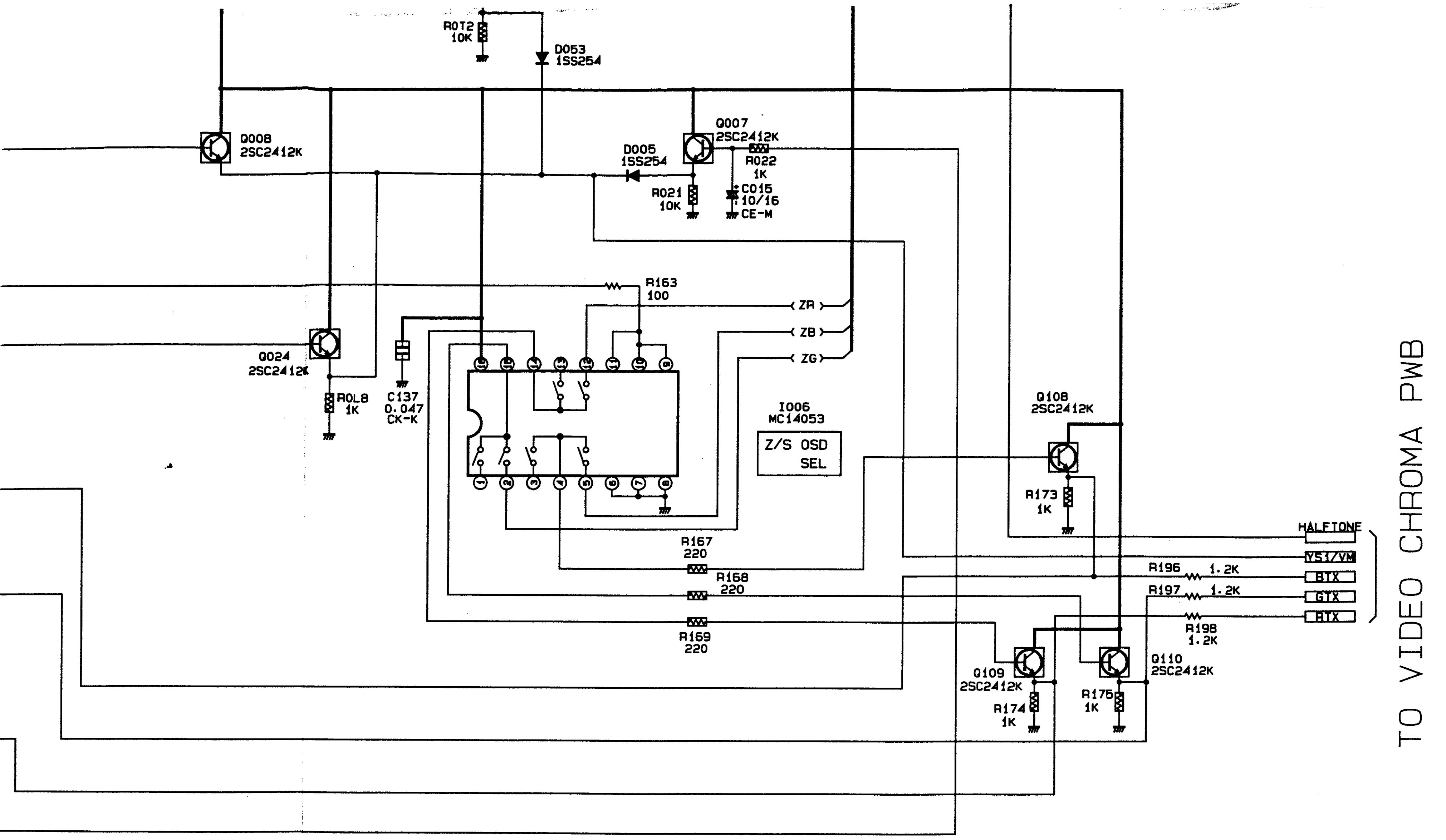
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


4
5
6
A
B
C
OSD uP
I102
52PIN-SDIP
Port16 /SCLK
IRIN
Port0C
Port0B
Port0A
Port09
Port0D
Port07 /CSync
Port06 /Counter
Port03
Port02 /I2SSC
Port01 /I2SSD
CVI/ADC0
LPF
ANGNDF
ADC5
Port04 /ADC4
Port05 /ADC3
Port00 /ADC2
Port17 /ADC1
ANGND
ANVCC
Port0F /HalfBlnk
V3
V2
V1
Port15 /B1
Port14 /B0
Port13 /G1
Port18 /G0
Port08 /R1
Port10 /R0
PWM6 /Hsync2
PWM5
PWM4
PWM3
PWM2
PWM1
ANGNDX
VCC
GND
XTAL2
XTAL1
/RESET
I2MSC1
I2MSD1
Port0E
Port11 /I2MSC2
Port12 /I2MSD2
VSync
HSync
Blank
R182 1K
R146 100
R147 100
C119 1/50
R148 100
C121 120P CK-K
C120 0.1 MYL-K
C1C1 4.7/50
R1C1 560
R141 560
R150 560
C123 100/6.3 CE-M
C122 0.047 CK-K
L110 100
R151 470
R152 470
R153 470
K560
K561
K562
R155 1K
R154 470
K563
C125 0.047 CK-K
L111 100 EL
C124 100/6.3 CE-M
R156 68K
X100
R157 10M 1W
C127 22P CCCH-J
C126 47P CCCH-J
C128 22/16 CE-M
I103 M51951BSL
RESET
Q107 2SC2412K
K599
R160 10K
OSDRESET
R158 100
R159 100
VSYNC1
HSYNC1
Q030 2SC2412K
R072 10K
D053 1SS254
Q008 2SC2412K
D005 1SS254
Q007 2SC2412K
R022 1K
R021 10K
C015 10/16

Circuit No.	Pin No.	Voltage DC
I006	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0
	14	0
	15	0
	16	5.2
I106	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	5.2
	12	5.2
	13	2.2
	14	1.2
	15	0
	16	1.8
	17	0
	18	0
	19	0
	20	0
	21	0
	22	5.2
	23	0
	24	0
	25	0
	26	0
	27	3.2
	28	4.6
	29	5.1
	30	0
	31	0
	32	0
	33	0
	34	0
	35	5.1

Circuit No.	Pin No.	Voltage DC
I103	1	5.2
	2	0
	3	5.1
I105	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0
	14	5.2

Circuit No.	Pin Name	Voltage DC
Q007	E	0
	B	0
	C	5.2
Q008	E	0
	B	0
	C	5.2
Q024	E	0
	B	0
	C	5.2
Q030	E	0
	B	0
	C	5.2
Q106	E	4.6
	B	5.2
	C	9.3
Q107	E	0
	B	0
	C	5.1
Q108	E	0
	B	0
	C	5.2
Q110	E	0
	B	0
	C	5.2
Q111	E	0
	B	0
	C	5.2
Q112	E	0
	B	0
	C	5.2


R0T2
10K
D053
1SS254
Q008
2SC2412K
Q007
2SC2412K
D005
1SS254
R022
1K
R021
10K
C015
10/16
CE-M
R163
100
ZR
ZB
ZG
Q024
2SC2412K
R0L8
1K
C137
0.047
CK-K
I006
MC14053
Z/S OSD
SEL
Q108
2SC2412K
R173
1K
HALFTONE
YS1/VM
BTX
GTX
RTX
R196 1.2K
R197 1.2K
R198
1.2K
R167
220
R168
220
R169
220
Q109
2SC2412K
R174
1K
R175
1K
Q110
2SC2412K
TO VIDEO CHROMA PWB

	27	3.2
	28	4.6
	29	5.1
	30	0
	31	0
	32	0
	33	0
	34	0
	35	5.1
	36	1.6
	37	2.2
	38	0
	39	5.1
	40	0
	41	0
	42	0
	43	0
	44	0
	45	0
	46	0
	47	0
	48	0
	49	0
	50	0
	51	0
	52	0

Q110	E	0
	B	0
	C	5.2
Q111	E	0
	B	0
	C	5.2
Q112	E	0
	B	0
	C	5.2
Q113	E	0
	B	0
	C	5.2

D

E

to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
basic circuit diagram, the value of the parts is subject to be altered for improvement.

SIGNAL P.W.B. 2/4

4 5 6

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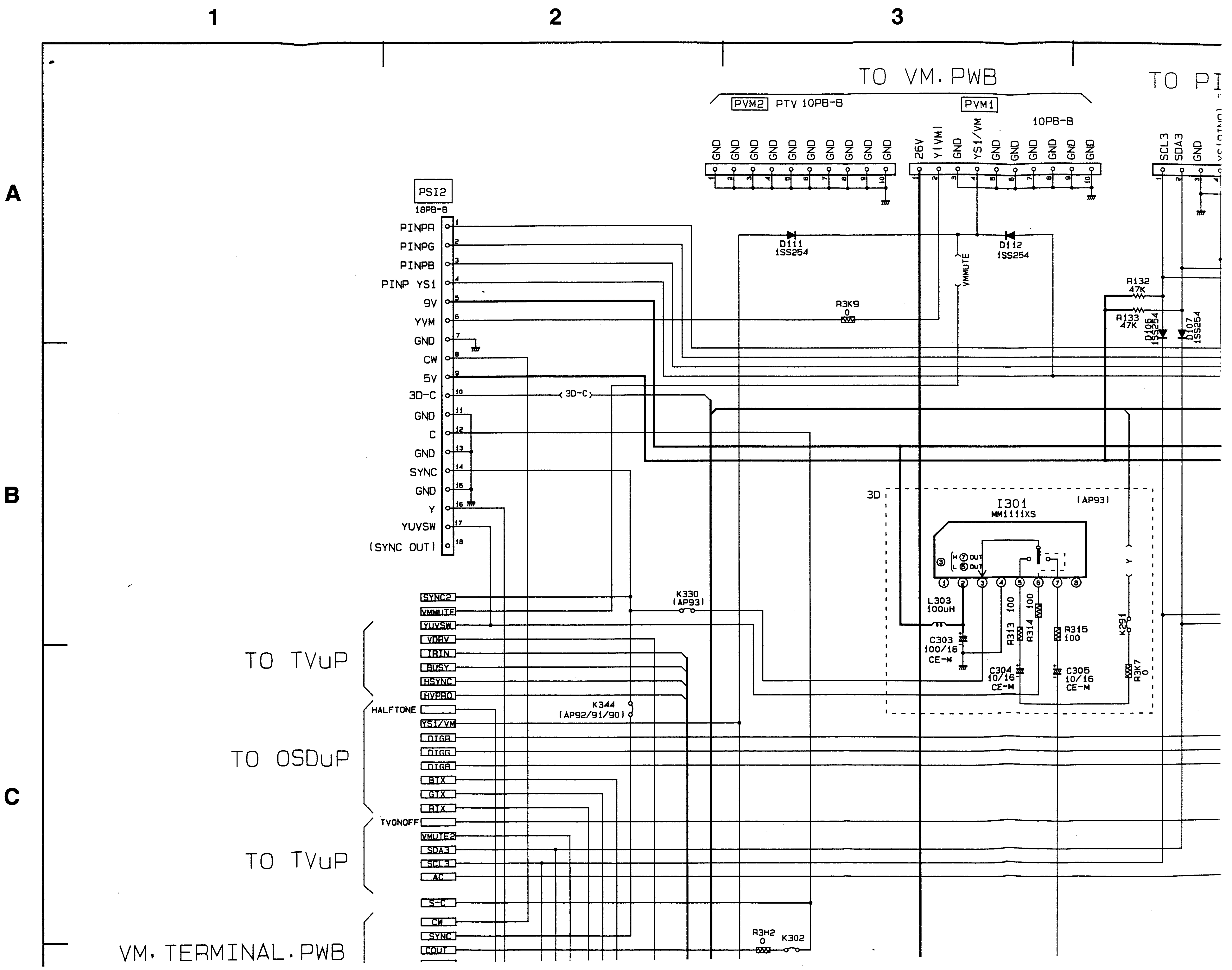
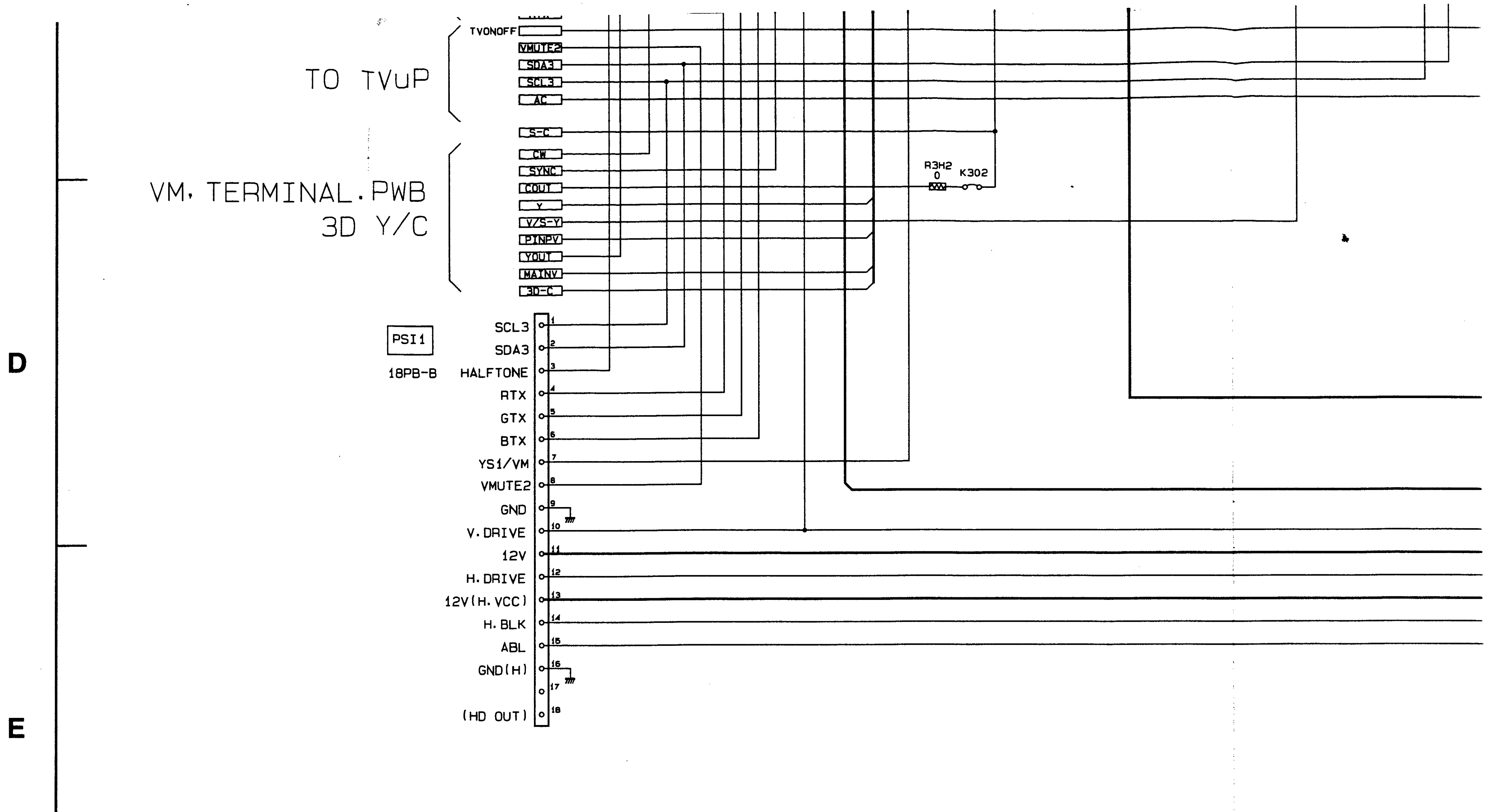
BASIC


1
2
3
A
B
C
TO VM.PWB
PVM2 PTV 10PB-B
PVM1
10PB-B
GND GND GND GND GND GND GND GND GND GND
26V
Y(VM)
GND
YS1/VM
GND GND GND GND GND GND
TO PI
SCL3
SDA3
GND
PSI2
18PB-B
PINPR
PINPG
PINPB
PINP YS1
9V
YVM
GND
CW
5V
3D-C
GND
C
GND
SYNC
GND
Y
YUVSW
(SYNC OUT)
D111
1SS254
D112
1SS254
VMMUTE
R3K9
0
3D-C
R132
47K
R133
47K
D106
1SS254
D107
1SS254
3D
I301
MM1111XS
(AP93)
H ⑦ OUT
L ⑥ OUT
L303
100uH
C303
100/16
CE-M
R313
100
R314
100
R315
100
C304
10/16
CE-M
C305
10/16
CE-M
K291
R3K7
0
Y
SYNC2
VMMUTE
YUVSW
VDRV
IBIN
BUSY
HSYNC
HVPRO
K330
(AP93)
TO TVuP
HALFTONE
YS1/VM
DIGB
DIGG
DIGR
BTX
GTX
RTX
K344
(AP92/91/90)
TO OSDuP
TVONOFF
VMUTE2
SDA3
SCL3
AC
TO TVuP
S-C
CW
SYNC
COUT
R3H2
0
K302
VM. TERMINAL. PWB

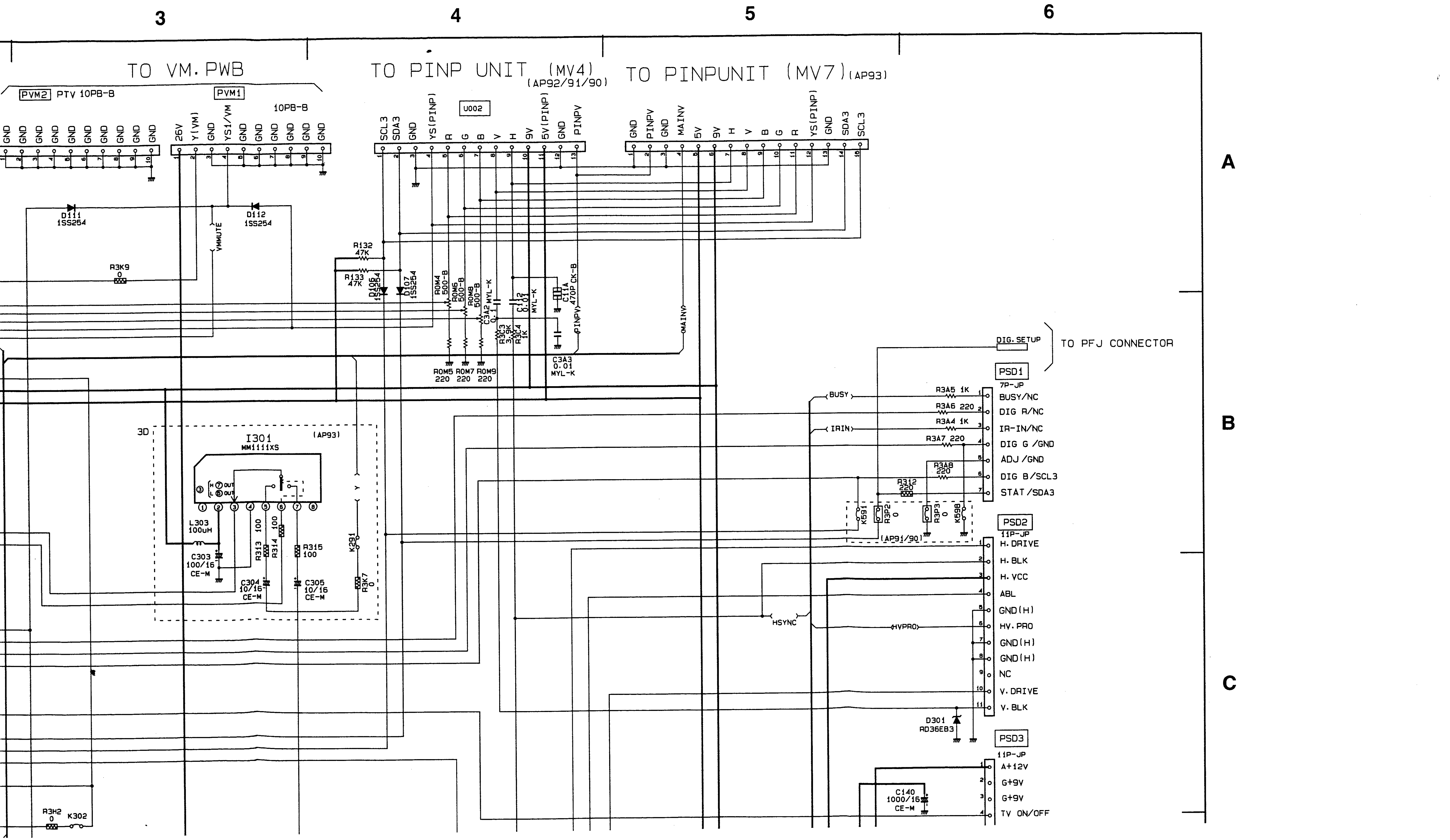


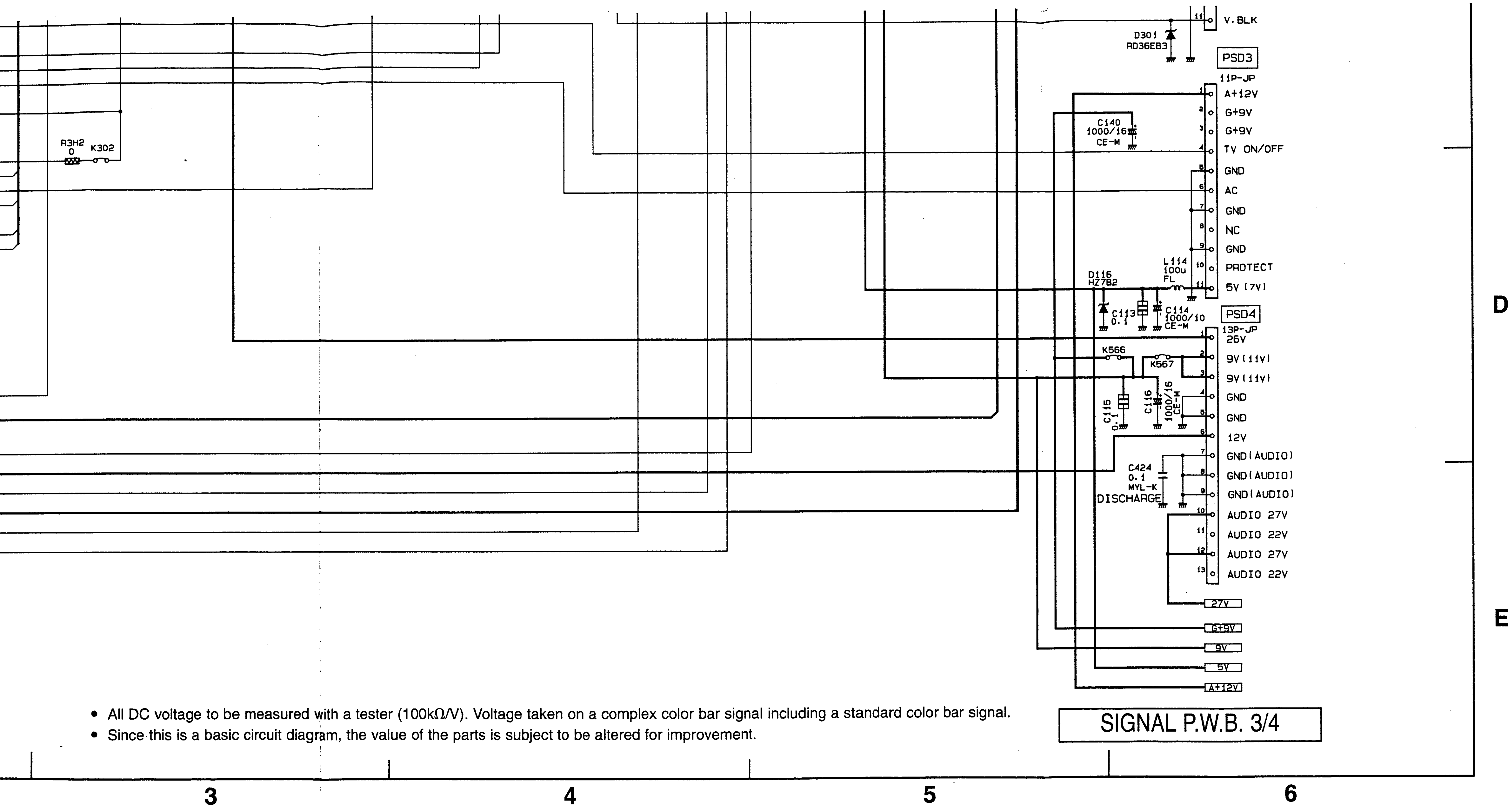
D
E
TO TVuP
VM, TERMINAL.PWB
3D Y/C
TVONOFF
VMUTE2
SDA3
SCL3
AC
S-C
CW
SYNC
COUT
Y
V/S-Y
PINPV
YOUT
MAINV
3D-C
R3H2
0
K302
PSI1
18PB-B
SCL3
SDA3
HALFTONE
RTX
GTX
BTX
YS1/VM
VMUTE2
GND
V.DRIVE
12V
H.DRIVE
12V(H.VCC)
H.BLK
ABL
GND(H)
(HD OUT)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

- All DC voltage to be measured with a tester (100kΩ/V). Voltage
- Since this is a basic circuit diagram, the value of the parts is sub

1
2
3

BASIC CIRCUIT DIAGRAM

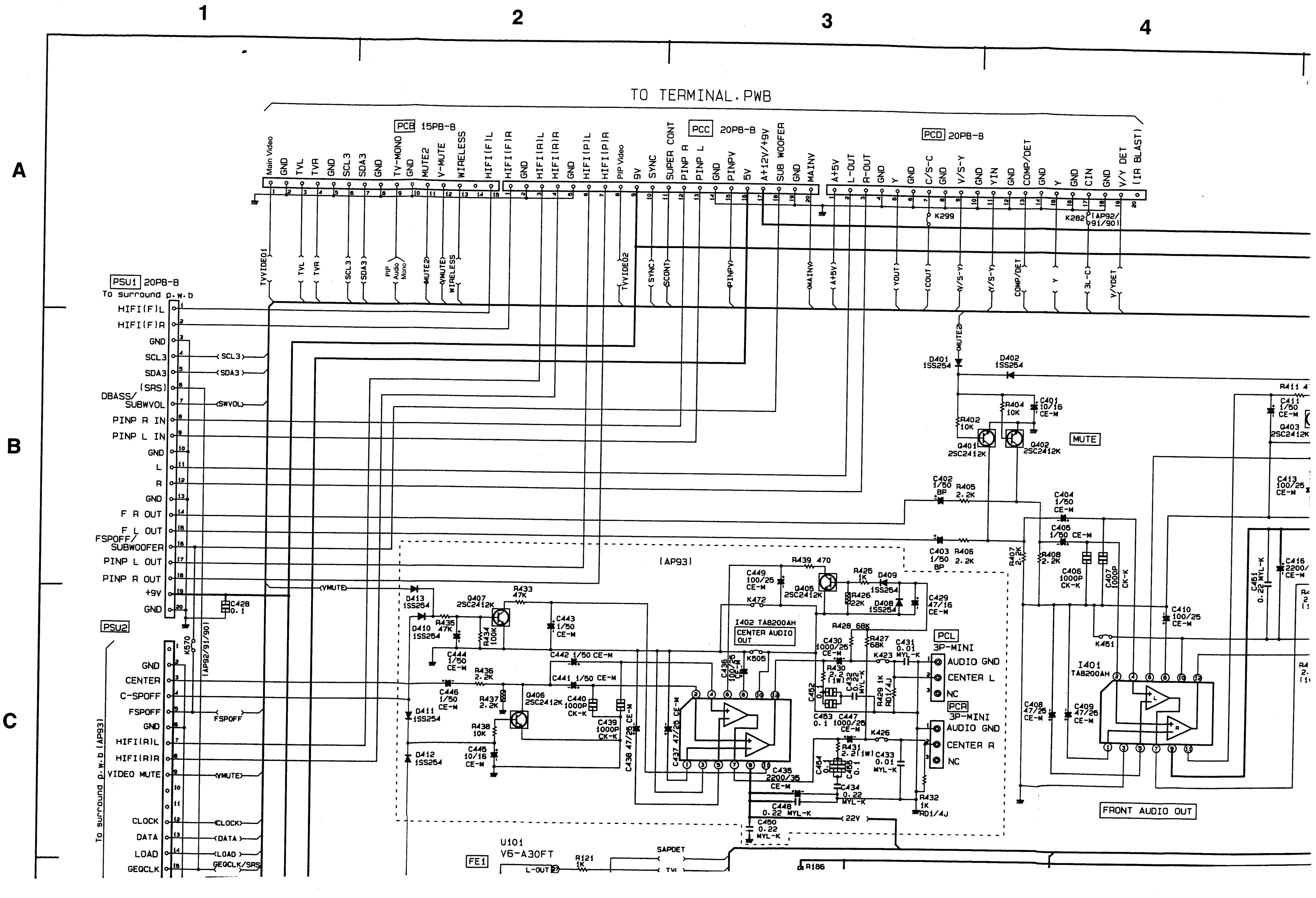

3
4
5
6
A
B
C
TO VM. PWB
PVM2 PTV 10PB-B
PVM1
10PB-B
GND GND GND GND GND GND GND GND GND GND
26V Y(VM) GND YS1/VM GND GND GND GND GND GND
D111 1SS264
D112 1SS264
VMMUTE
R3K9 0
TO PINP UNIT (MV4) (AP92/91/90)
U002
SCL3 SDA3 GND YS(PINP) R G B V H 9V 5V(PINP) GND PINPV
TO PINPUNIT (MV7) (AP93)
GND PINPV GND MAINV 5V 9V H V B G R YS(PINP) GND SDA3 SCL3
R132 47K
R133 47K
D106 1SS254
D107 1SS254
R0M4 500-B
R0M6 500-B
R0M8 500-B
C3A2 0.1 MYL-K
R3C3 3.9K
R3C4 1K
C112 0.01 MYL-K
C11A 470P CK-B
PINPV
MAINV
C3A3 0.01 MYL-K
R0M5 220
R0M7 220
R0M9 220
DIG. SETUP
TO PFJ CONNECTOR
PSD1
7P-JP
BUSY
IRIN
R3A5 1K
R3A6 220
R3A4 1K
R3A7 220
R3A8 220
R312 220
1 BUSY/NC
2 DIG R/NC
3 IR-IN/NC
4 DIG G /GND
5 ADJ /GND
6 DIG B/SCL3
7 STAT/SDA3
K591
R3P2 0
R3P3 0
K598
(AP91/90)
PSD2
11P-JP
1 H. DRIVE
2 H. BLK
3 H. VCC
4 ABL
5 GND(H)
6 HV. PRO
7 GND(H)
8 GND(H)
9 NC
10 V. DRIVE
11 V. BLK
HSYNC
HVPRO
D301 RD36EB3
PSD3
11P-JP
1 A+12V
2 G+9V
3 G+9V
4 TV ON/OFF
C140 1000/16 CE-M
3D
I301 MM1111XS
(AP93)
H ⑦ OUT
L ⑥ OUT
① ② ③ ④ ⑤ ⑥ ⑦ ⑧
L303 100uH
C303 100/16 CE-M
R313 100
R314 100
R315 100
C304 10/16 CE-M
C305 10/16 CE-M
Y
K291
R3K7 0
R3H2 0
K302


V.BLK
D301
RD36EB3
PSD3
11P-JP
A+12V
G+9V
G+9V
TV ON/OFF
GND
AC
GND
NC
GND
PROTECT
5V (7V)
C140
1000/16
CE-M
R3H2
0
K302
L114
100u
FL
D116
HZ7B2
C113
0.1
C114
1000/10
CE-M
PSD4
13P-JP
26V
9V (11V)
9V (11V)
GND
GND
12V
GND (AUDIO)
GND (AUDIO)
GND (AUDIO)
AUDIO 27V
AUDIO 22V
AUDIO 27V
AUDIO 22V
K566
K567
C115
0.1
C116
1000/16
CE-M
C424
0.1
MYL-K
DISCHARGE
27V
G+9V
9V
5V
A+12V
D
E
3
4
5
6

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

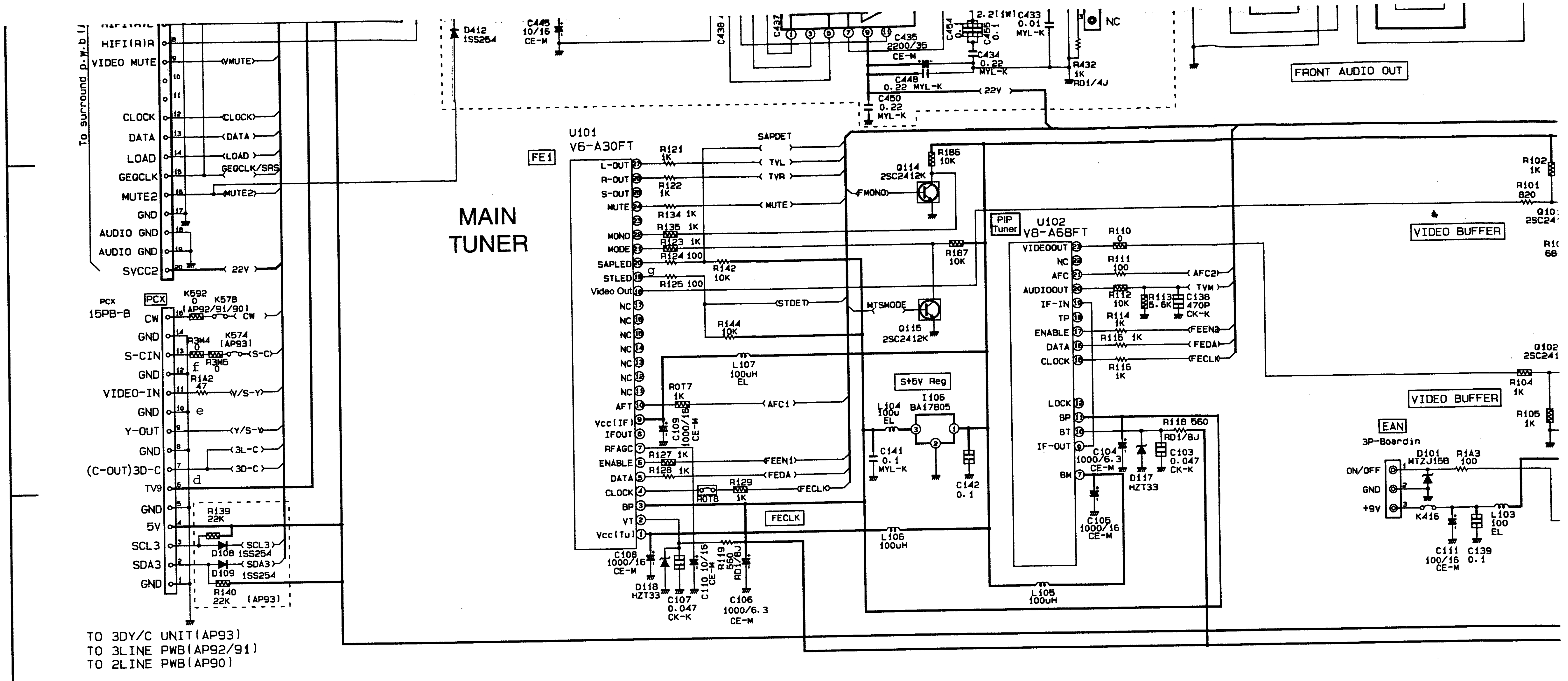
SIGNAL P.W.B. 3/4

BASIC CIRCUIT DIAGRAM


1
2
3
4
A
B
C
TO TERMINAL.PWB
PCB 15PB-B
Main Video
GND
TVL
TVR
GND
SCL3
SDA3
GND
TV-MONO
GND
MUTE2
V-MUTE
WIRELESS
HIFI(F)L
HIFI(F)R
GND
HIFI(R)L
HIFI(R)R
GND
HIFI(P)L
HIFI(P)R
PIP Video
9V
SYNC
SUPER CONT
PINP R
PINP L
GND
PINPV
5V
A+12V/+9V
SUB WOOFER
GND
MAINV
PCC 20PB-B
PCD 20PB-B
A+5V
L-OUT
R-OUT
GND
Y
GND
C/S-C
GND
V/S-Y
GND
YIN
GND
COMP/DET
GND
Y
GND
CIN
GND
V/Y DET
(IR BLAST)
K299
K282 (AP92/91/90)
TVVIDEO1
TVL
TVR
SCL3
SDA3
PIP Audio Mono
MUTE2
VMUTE
WIRELESS
TVVIDEO2
SYNC
SCONT
PINPV
MAINV
A+5V
YOUT
COUT
V/S-Y
Y/S-Y
COMP/DET
Y
3L-C
V/YDET
PSU1 20PB-B
To surround p.w.b
HIFI(F)L
HIFI(F)R
GND
SCL3
SDA3
(SRS)
DBASS/SUBWVOL
PINP R IN
PINP L IN
GND
L
R
GND
F R OUT
F L OUT
FSPOFF/SUBWOOFER
PINP L OUT
PINP R OUT
+9V
GND
SWVOL
C428 0.1
K570
(AP92/91/90)
PSU2
To surround p.w.b (AP93)
GND
CENTER
C-SPOFF
FSPOFF
GND
HIFI(R)L
HIFI(R)R
VIDEO MUTE
CLOCK
DATA
LOAD
GEQCLK
FSPOFF
VMUTE
GEQCLK/SRS
(AP93)
D413 1SS254
D410 1SS254
R435 47K
Q407 2SC2412K
R433 47K
R434 100K
C443 1/50 CE-M
C444 1/50 CE-M
R436 2.2K
C442 1/50 CE-M
C441 1/50 CE-M
C446 1/50 CE-M
R437 2.2K
Q406 2SC2412K
C440 1000P CK-K
C439 1000P CK-K
C438 47/25 CE-M
D411 1SS254
R438 10K
C445 10/16 CE-M
D412 1SS254
C449 100/25 CE-M
K472
R439 470
Q405 2SC2412K
R425 1K
D409 1SS254
R426 22K
D408 1SS254
C429 47/16 CE-M
I402 TA8200AH
CENTER AUDIO OUT
K505
C436 100/25 CE-M
C437 47/25 CE-M
R428 68K
C430 1000/25 CE-M
R427 68K
C431 0.01 MYL-K
K423
R430 2.2(1W)
C432 0.01 MYL-K
R429 1K RD1/4J
C452 0.1
C453 0.1
C447 1000/25 CE-M
K426
R431 2.2(1W)
C433 0.01 MYL-K
C454 0.1
C455 0.1
C435 2200/35 CE-M
C434 0.22 MYL-K
C448 0.22 MYL-K
C450 0.22 MYL-K
R432 1K RD1/4J
22V
PCL 3P-MINI
AUDIO GND
CENTER L
NC
PCR 3P-MINI
AUDIO GND
CENTER R
NC
D401 1SS254
D402 1SS254
R404 10K
C401 10/16 CE-M
R402 10K
Q401 2SC2412K
Q402 2SC2412K
MUTE
C402 1/50 BP
R405 2.2K
C403 1/50 BP
R406 2.2K
R407 2.2K
R408 2.2K
C404 1/50 CE-M
C405 1/50 CE-M
C406 1000P CK-K
C407 1000P CK-K
C410 100/25 CE-M
K451
I401 TA8200AH
C408 47/25 CE-M
C409 47/25 CE-M
FRONT AUDIO OUT
R411
C411 1/50 CE-M
Q403 2SC2412K
C413 100/25 CE-M
C451 0.22 MYL-K
C416 2200/ CE-M
FE1
U101 V6-A30FT
L-OUT
R121 1K
SAPDET
TVL
R186

D

E


To surround p.w.b(I)
HIFI(R)R
VIDEO MUTE
CLOCK
DATA
LOAD
GEQCLK
MUTE2
GND
AUDIO GND
AUDIO GND
SVCC2
22V
PCX
15PB-B
CW
GND
S-CIN
GND
VIDEO-IN
GND
Y-OUT
GND
(C-OUT)3D-C
TV9
GND
5V
SCL3
SDA3
GND
K592
K578
(AP92/91/90)
K574
(AP93)
R3M4
R3M5
R1A2 47
R139 22K
D108 1SS254
D109 1SS254
R140 22K
(AP93)
TO 3DY/C UNIT(AP93)
TO 3LINE PWB(AP92/91)
TO 2LINE PWB(AP90)
D412 1SS254
C445 10/16 CE-M
MAIN TUNER
FE1
U101
V6-A30FT
L-OUT
R-OUT
S-OUT
MUTE
MONO
MODE
SAPLED
STLED
Video Out
NC
AFT
Vcc(IF)
IFOUT
RFAGC
ENABLE
DATA
CLOCK
BP
VT
Vcc(Tu)
R121 1K
R122 1K
R134 1K
R135 1K
R123 1K
R124 100
R142 10K
R126 100
R144 10K
L107 100uH EL
R0T7 1K
C109 1000/16 CE-M
R127 1K
R128 1K
R0T8
R129 1K
C108 1000/16 CE-M
D118 HZT33
C107 0.047 CK-K
C110 10/16 CE-M
R119 560 RD1/8J
C106 1000/6.3 CE-M
SAPDET
TVL
TVR
MUTE
STDET
AFC1
FEEN1
FEDA
FECLK
FECLK
FMONO
Q114 2SC2412K
R186 10K
R187 10K
MTSMODE
Q115 2SC2412K
S+5V Reg
I106 BA17805
L104 100u EL
C141 0.1 MYL-K
C142 0.1
L106 100uH
PIP Tuner
U102
V8-A68FT
VIDEOOUT
NC
AFC
AUDIOOUT
IF-IN
TP
ENABLE
DATA
CLOCK
LOCK
BP
BT
IF-OUT
BM
R110 0
R111 100
R112 10K
R113 5.6K
C138 470P CK-K
R114 1K
R115 1K
R116 1K
AFC2
TVM
FEEN2
FEDA
FECLK
R118 560 RD1/8J
C104 1000/6.3 CE-M
C103 0.047 CK-K
D117 HZT33
C105 1000/16 CE-M
L105 100uH
C432
C438
C435 2200/35 CE-M
C454
C451 0.1
C433 0.01 MYL-K
C434 0.22 MYL-K
C448 0.22 MYL-K
C450 0.22 MYL-K
R432 1K RD1/4J
22V
NC
FRONT AUDIO OUT
VIDEO BUFFER
VIDEO BUFFER
R102 1K
R101 820
Q10 2SC24
Q102 2SC241
R104 1K
R105 1K
EAN
3P-Boardin
ON/OFF
GND
+9V
D101 MTZJ15B
R1A3 100
K416
C111 100/16 CE-M
C139 0.1
L103 100 EL

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar sigr
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvemen

1 2 3 4

GRAM

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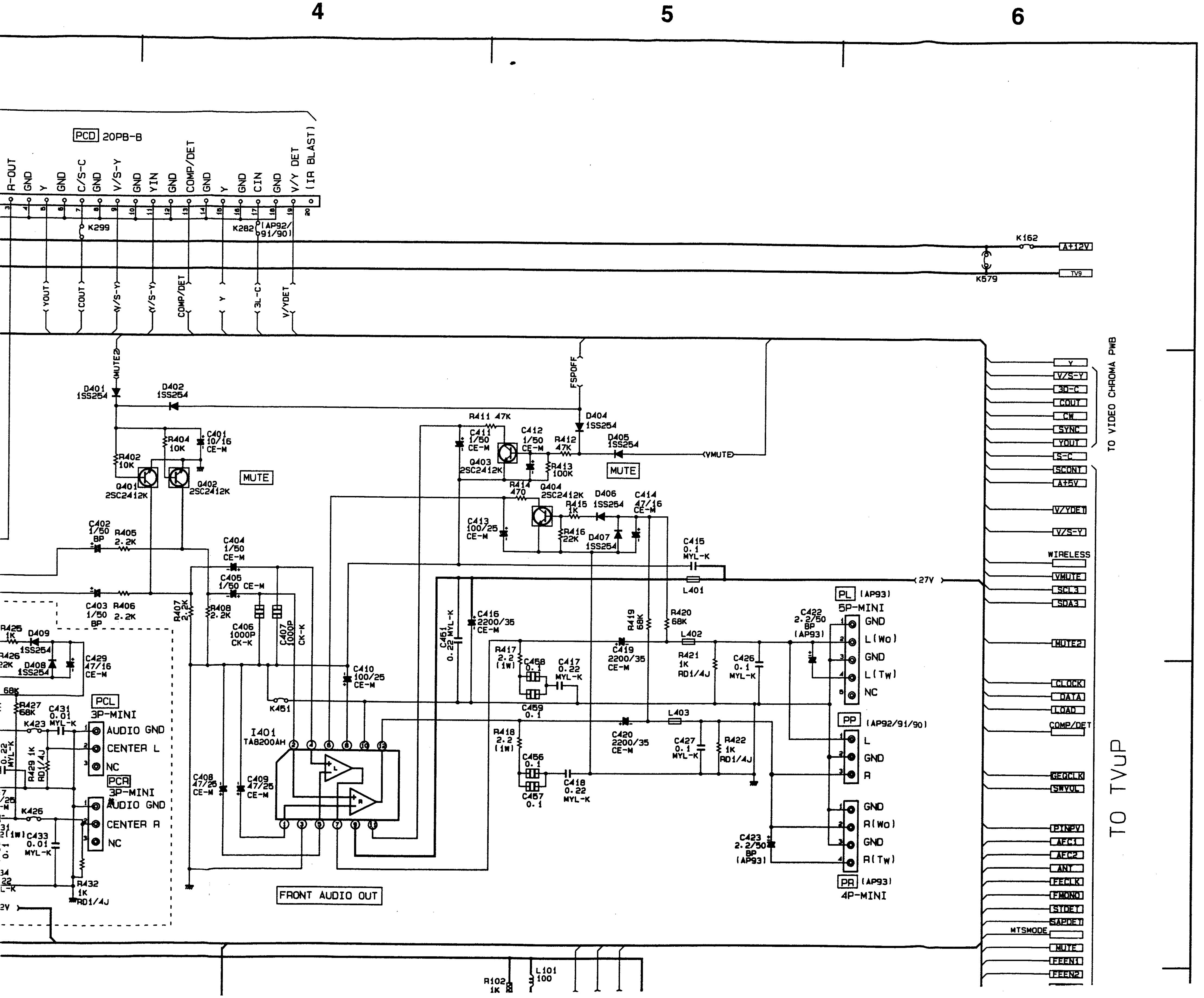
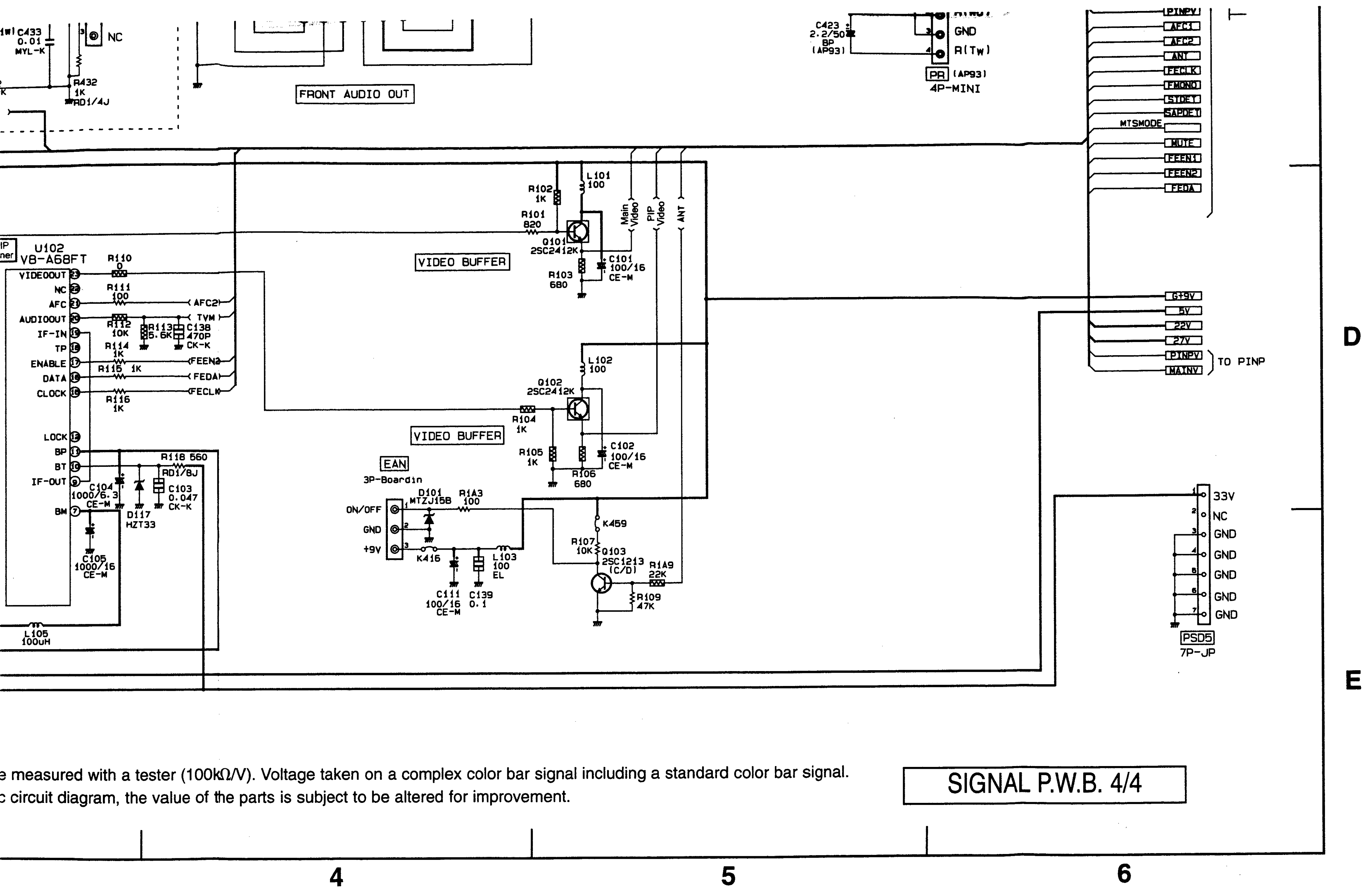


4
5
6
A
B
C
PCD 20PB-B
R-OUT
GND
Y
GND
C/S-C
GND
V/S-Y
GND
YIN
GND
COMP/DET
GND
Y
GND
CIN
GND
V/Y DET
(IR BLAST)
K299
K282 (AP92/91/90)
K162
A+12V
K579
TV9
YOUT
COUT
V/S-Y
COMP/DET
3L-C
V/YDET
MUTE2
FSPOFF
D401 1SS254
D402 1SS254
R404 10K
C401 10/16 CE-M
R402 10K
Q401 2SC2412K
Q402 2SC2412K
MUTE
R411 47K
C411 1/50 CE-M
Q403 2SC2412K
C412 1/50 CE-M
R412 47K
R413 100K
D404 1SS254
D405 1SS254
VMUTE
R414 470
Q404 2SC2412K
R415 1K
D406 1SS254
C414 47/16 CE-M
C413 100/25 CE-M
R416 22K
D407 1SS254
C415 0.1 MYL-K
C402 1/50 BP
R405 2.2K
C404 1/50 CE-M
C405 1/50 CE-M
C403 1/50 BP
R406 2.2K
R407 2.2K
R408 2.2K
C406 1000P CK-K
C407 1000P CK-K
L401
27V
R425 1K
D409 1SS254
R426 22K
D408 1SS254
C429 47/16 CE-M
C451 0.22 MYL-K
C416 2200/35 CE-M
R419 68K
R420 68K
L402
PL (AP93)
5P-MINI
C422 2.2/50 BP (AP93)
GND
L(Wo)
GND
L(Tw)
NC
R417 2.2 (1W)
C458 0.1
C417 0.22 MYL-K
C419 2200/35 CE-M
R421 1K RD1/4J
C426 0.1 MYL-K
C410 100/25 CE-M
R427 68K
C431 0.01 MYL-K
K423
PCL
3P-MINI
AUDIO GND
CENTER L
NC
K451
C459 0.1
L403
PP (AP92/91/90)
L
GND
R
I401 TA8200AH
R418 2.2 (1W)
C456 0.1
C457 0.1
C418 0.22 MYL-K
C420 2200/35 CE-M
C427 0.1 MYL-K
R422 1K RD1/4J
R429 1K RD1/4J
PCR
3P-MINI
AUDIO GND
CENTER R
NC
K426
C433 0.01 MYL-K
C408 47/25 CE-M
C409 47/25 CE-M
GND
R(Wo)
GND
R(Tw)
C423 2.2/50 BP (AP93)
R432 1K RD1/4J
FRONT AUDIO OUT
PR (AP93)
4P-MINI
Y
V/S-Y
3D-C
COUT
CW
SYNC
YOUT
S-C
SCONT
A+5V
TO VIDEO CHROMA PWB
V/YDET
V/S-Y
WIRELESS
VMUTE
SCL3
SDA3
MUTE2
CLOCK
DATA
LOAD
COMP/DET
GEQCLK
SWVOL
TO TVuP
PINPV
AFC1
AFC2
ANT
FECLK
FMONO
STDET
SAPDET
MTSMODE
MUTE
FEEN1
FEEN2
R102 1K
L101 100

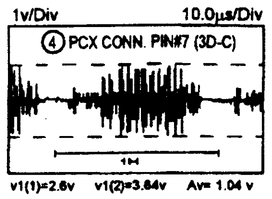
Circuit No.	Pin No.	Voltage DC
I106	1	9.3
	2	0
	3	5.1
I401	1	1.5
	2	0
	3	0
	4	0
	5	1.5
	6	9.3
	7	12.9
	8	5.2
	9	27.5
	10	0
	11	4.4
	12	12.5

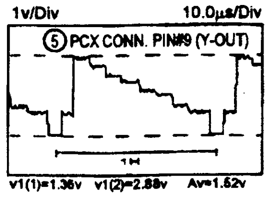
Circuit No.	Pin Name	Voltage DC
Q101	E	6.4
	B	7.1
	C	9.2
Q102	E	1.7
	B	2.3
	C	9.2
Q103	E	0
	B	0.6
	C	0
Q114	E	0
	B	0.7
	C	0
Q115	E	0
	B	0.7
	C	0
Q401	E	0
	B	0
	C	0
Q402	E	0
	B	0
	C	0
Q403	E	0
	B	0
	C	4.3

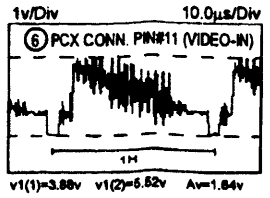

C433
0.01
MYL-K
NC
R432
1K
RD1/4J
FRONT AUDIO OUT
C423
2.2/50
BP
(AP93)
GND
R(Tw)
PR (AP93)
4P-MINI
PINPV
AFC1
AFC2
ANT
FECLK
FMONO
STDET
SAPDET
MTSMODE
MUTE
FEEN1
FEEN2
FEDA
IP
ner
U102
V8-A68FT
VIDEOOUT 23
NC 22
AFC 21
AUDIOOUT 20
IF-IN 19
TP 18
ENABLE 17
DATA 16
CLOCK 15
LOCK 12
BP 11
BT 10
IF-OUT 9
BM 7
R110
0
R111
100
AFC2
TVM
R112
10K
R113
5.6K
C138
470P
CK-K
R114
1K
FEEN2
R115 1K
FEDA
FECLK
R116
1K
R118 560
RD1/8J
C104
1000/6.3
CE-M
D117
HZT33
C103
0.047
CK-K
C105
1000/16
CE-M
L105
100uH
R102
1K
L101
100
R101
820
Q101
2SC2412K
VIDEO BUFFER
R103
680
C101
100/16
CE-M
Main Video
PIP Video
ANT
L102
100
Q102
2SC2412K
R104
1K
VIDEO BUFFER
R105
1K
R106
680
C102
100/16
CE-M
EAN
3P-Boardin
D101
MTZJ15B
R1A3
100
ON/OFF
GND
+9V
K416
C111
100/16
CE-M
C139
0.1
L103
100
EL
K459
R107
10K
Q103
2SC1213
(C/D)
R1A9
22K
R109
47K
G+9V
5V
22V
27V
PINPV
MAINV
TO PINP
33V
NC
GND
GND
GND
GND
GND
PSD5
7P-JP
D
E
4
5
6

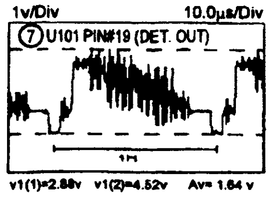
e measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
c circuit diagram, the value of the parts is subject to be altered for improvement.

SIGNAL P.W.B. 4/4









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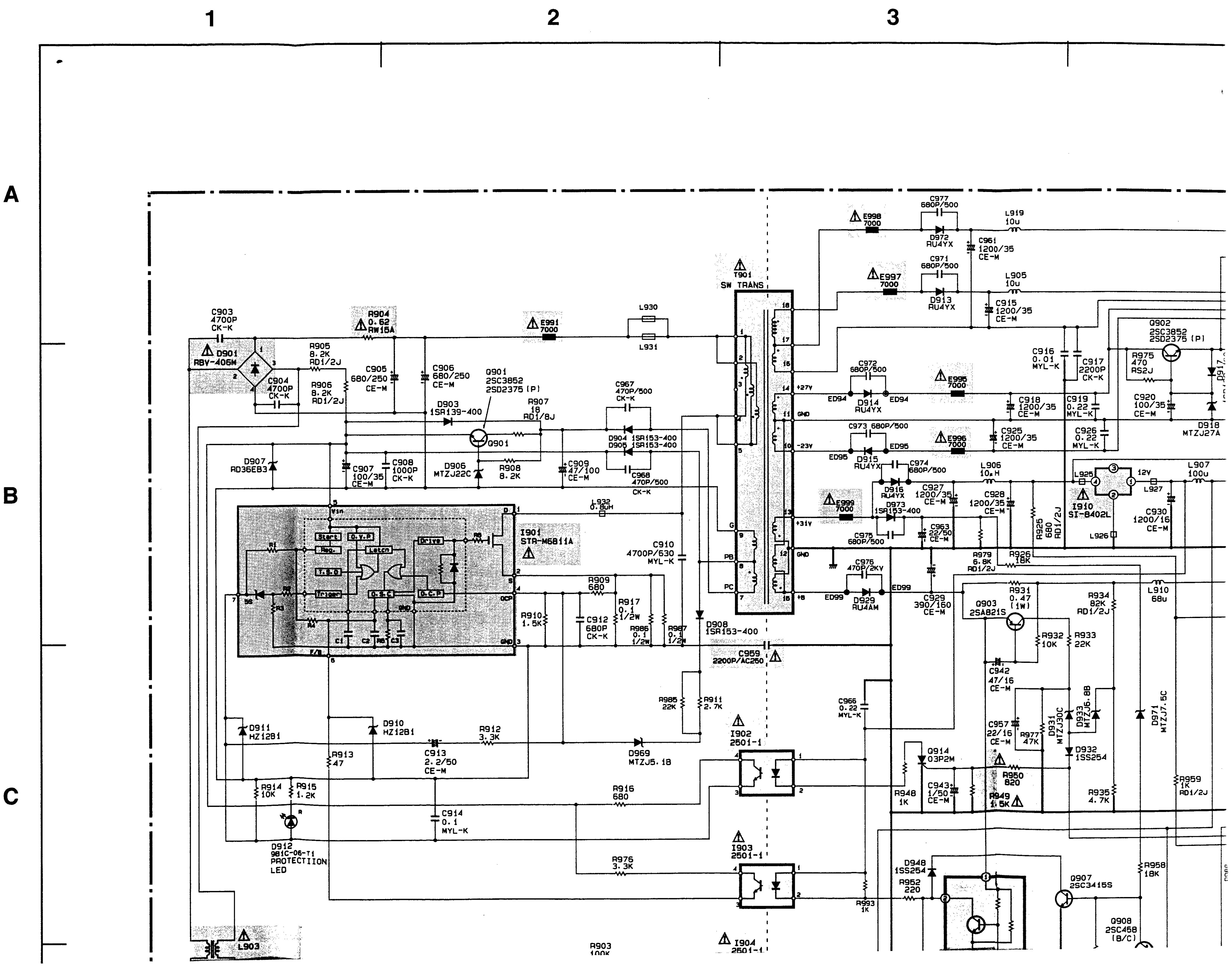
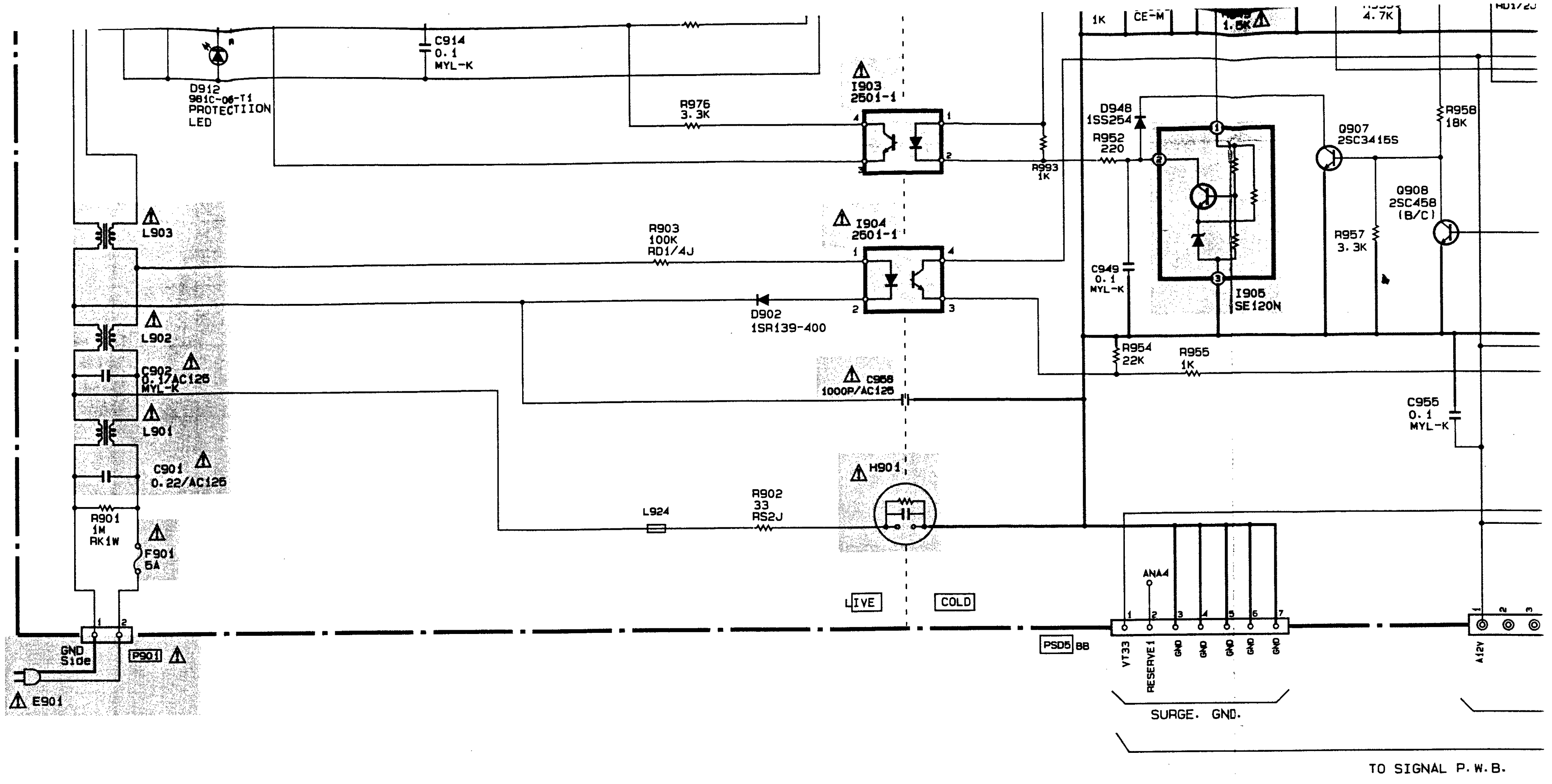
BASIC

Circuit No.	Pin No.	Voltage DC
I901	1	155.4
	2	0
	3	0
	4	1.6
	5	24.2
	6	0.2
	7	2.0
I902	1	12.0
	2	11.3
	3	1.9
	4	24.2
I903	1	12.0
	2	11.0
	3	0
	4	23.4
I904	1	8.0
	2	8.4
	3	4.6
	4	11.8
I905	1	119.0
	2	10.9
	3	0
I908	1	25.1
	2	0
	3	25.2
I909	1	0
	2	-22.7
	3	-12.2
I910	1	12.0
	2	0
	3	12.2
	4	31.2
I912	1	31.2
	2	9.7
	3	0
	4	9.1
	5	2.5
I913	1	31.2
	2	5.2
	3	0
	4	5.1
	5	2.5

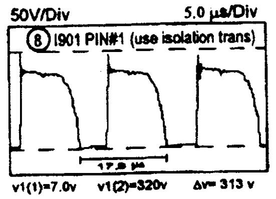
Circuit No.	Pin Name	Voltage DC
Q901	E	24.2
	B	22.0
	C	51.5
Q902	E	25.1
	B	25.7
	C	27.5
Q903	E	119.1
	B	118.5
	C	0.9
Q905	E	0
	B	0
	C	2.5
Q906	E	0
	B	0.7
	C	0
Q907	E	0
	B	0
	C	10.8
Q908	E	0
	B	0.7
	C	0
Q909	E	4.6
	B	10.5
	C	0
Q912	E	0
	B	0
	C	0
Q913	E	2.6
	B	2.6
	C	0
Q914	G	0
	A	11.3
	K	0
Q916	E	0
	B	0.7
	C	0
Q917	E	11.9
	B	11.1
	C	11.8
Q918	E	2.6
	B	3.0
	C	4.6


1
2
3
A
B
C
C903 4700P CK-K
D901 RBV-406M
C904 4700P CK-K
R904 0.62 RW15A
R905 8.2K RD1/2J
R906 8.2K RD1/2J
C905 680/250 CE-M
C906 680/250 CE-M
Q901 2SC3852 2SD2375 (P)
D903 1SR139-400
R907 18 RD1/8J
E991 7000
L930
L931
C967 470P/500 CK-K
D904 1SR153-400
D905 1SR153-400
C968 470P/500 CK-K
C909 47/100 CE-M
D907 RD36EB3
C907 100/35 CE-M
C908 1000P CK-K
D906 MTZJ22C
R908 8.2K
T901 SW TRANS
I901 STR-M6811A
Start
Reg.
O.V.P
Latch
Drive
T.S.D
Trigger
O.S.C
O.C.P
Vin
GND
OCP
F/B
L932 0.8uH
C910 4700P/630 MYL-K
R909 680
R910 1.5K
C912 680P CK-K
R917 0.1 1/2W
R986 0.1 1/2W
R987 0.1 1/2W
D908 1SR153-400
C959 2200P/AC250
R985 22K
R911 2.7K
D911 HZ12B1
D910 HZ12B1
R913 47
C913 2.2/50 CE-M
R912 3.3K
D969 MTZJ5.1B
R914 10K
R915 1.2K
D912 981C-06-T1 PROTECTIION LED
C914 0.1 MYL-K
R916 680
I902 2501-1
I903 2501-1
R976 3.3K
I904 2501-1
R903 100K
L903
E998 7000
C977 680P/500
D972 RU4YX
C961 1200/35 CE-M
L919 10u
E997 7000
C971 680P/500
D913 RU4YX
C915 1200/35 CE-M
L905 10u
C972 680P/500
D914 RU4YX
ED94
E995 7000
C918 1200/35 CE-M
C973 680P/500
D915 RU4YX
ED95
E996 7000
C925 1200/35 CE-M
C974 680P/500
D916 RU4YX
D973 1SR153-400
C927 1200/35 CE-M
E999 7000
C975 680P/500
C963 22/50 CE-M
C928 1200/35 CE-M
L906 10uH
C976 470P/2KV
D929 RU4AM
ED99
C929 390/160 CE-M
R979 6.8K RD1/2J
R926 18K
R925 680 RD1/2J
+27V
GND
-23V
+31V
+B
C916 0.01 MYL-K
C917 2200P CK-K
C919 0.22 MYL-K
C926 0.22 MYL-K
R975 470 RS2J
C920 100/35 CE-M
Q902 2SC3852 2SD2376 (P)
D918 MTZJ27A
I910 SI-8402L
L925
L926
L927
12V
C930 1200/16 CE-M
L907 100u
L910 68u
Q903 2SA821S
R931 0.47 (1W)
R932 10K
R933 22K
R934 82K RD1/2J
C942 47/16 CE-M
C966 0.22 MYL-K
C957 22/16 CE-M
R977 47K
D931 MTZJ30C
D933 MTZJ6.8B
D932 1SS254
D971 MTZJ7.5C
Q914 03P2M
R948 1K
C943 1/50 CE-M
R950 820
R949 1.5K
R935 4.7K
R959 1K RD1/2J
D948 1SS254
R952 220
R993 1K
Q907 2SC3415S
R958 18K
Q908 2SC458 (B/C)

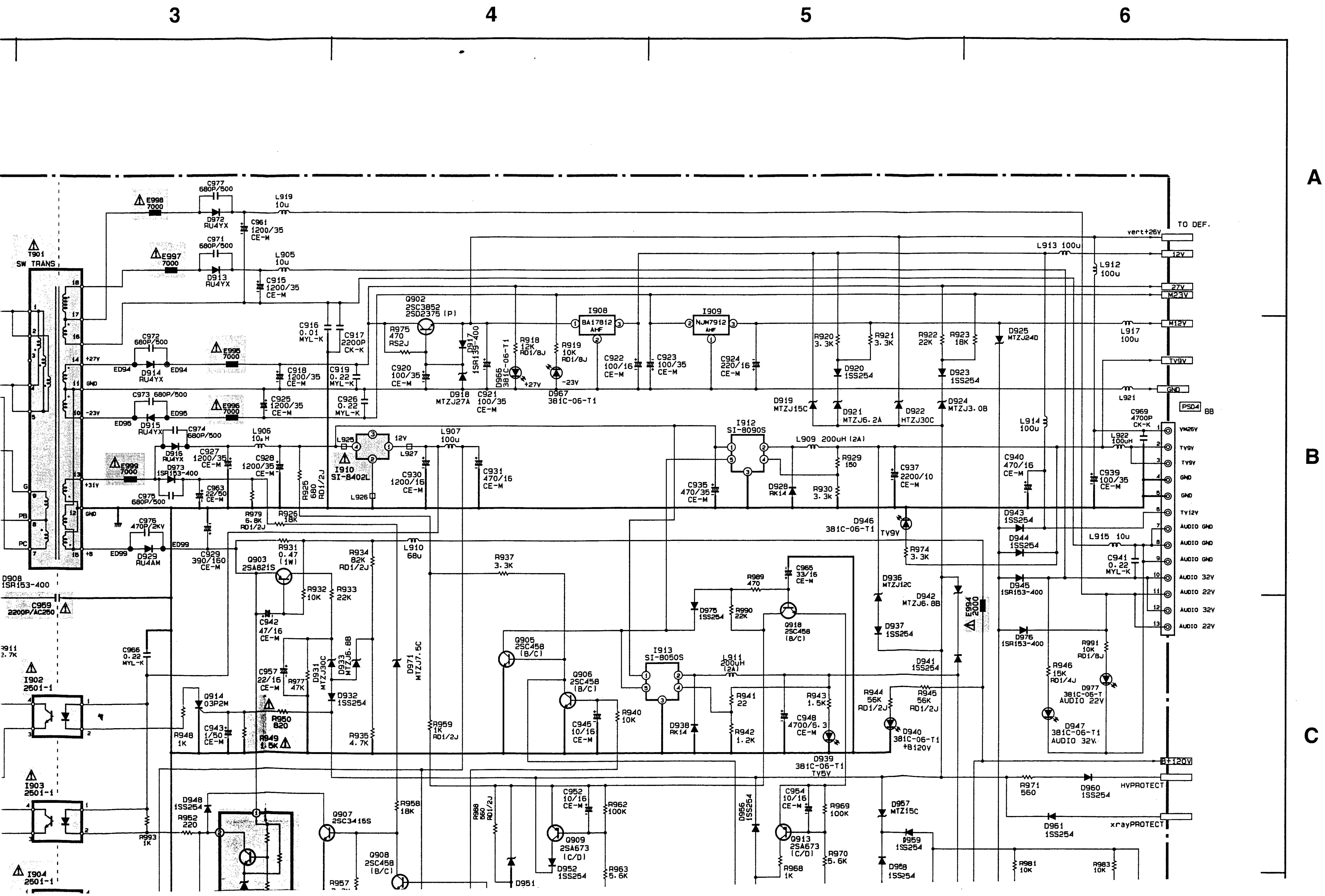

1K
CE-M
1.8K
4.7K
D912
981C-06-T1
PROTECTIION
LED
C914
0.1
MYL-K
R976
3.3K
I903
2501-1
R993
1K
D948
1SS254
R952
220
Q907
2SC3415S
R958
18K
Q908
2SC458
(B/C)
R957
3.3K
C949
0.1
MYL-K
I905
SE120N
L903
R903
100K
RD1/4J
I904
2501-1
D902
1SR139-400
R954
22K
R955
1K
L902
C902
0.47AC125
MYL-K
C958
1000P/AC125
C955
0.1
MYL-K
L901
C901
0.22/AC125
H901
R902
33
RS2J
L924
R901
1M
RK1W
F901
5A
LIVE
COLD
ANA4
GND
Side
P901
E901
PSD5
88
VT33
RESERVE1
GND
GND
GND
GND
GND
A12V
SURGE. GND.
TO SIGNAL P.W.B.

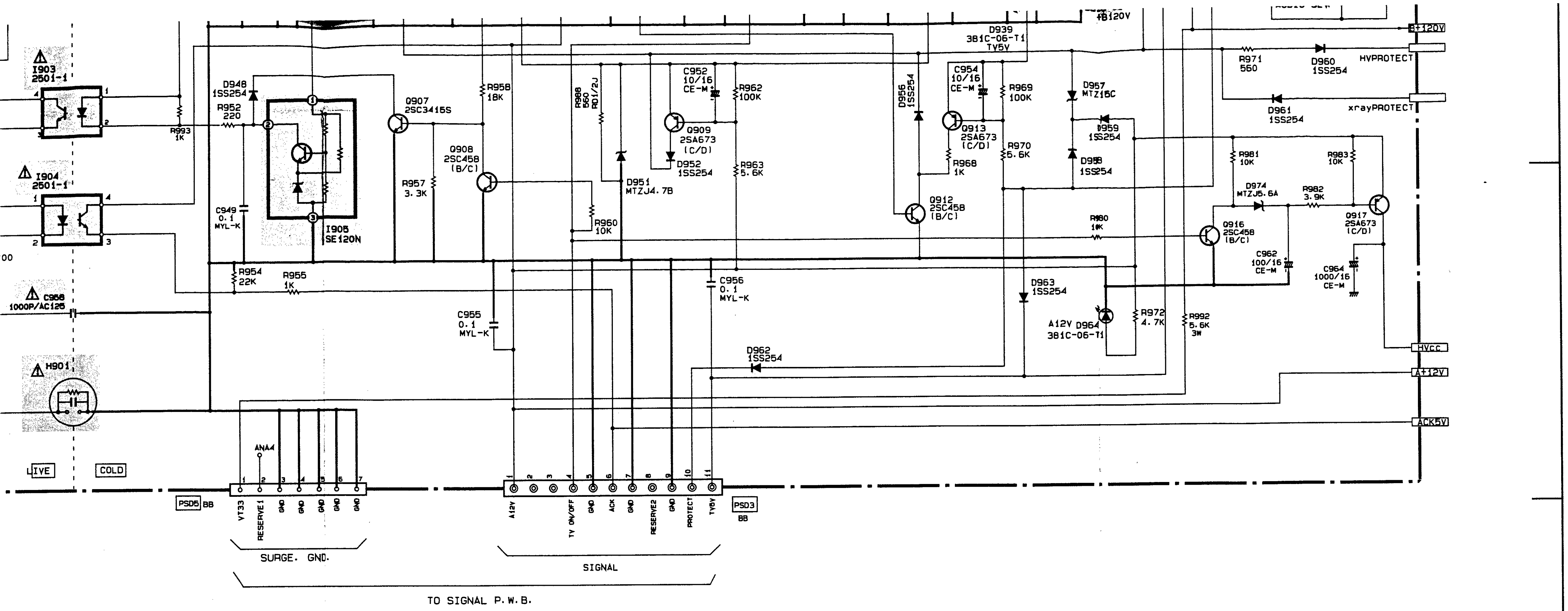
D
E
1
2
3

- All DC voltage to be measured with a tester (100kΩ/V). Volta
- Since this is a basic circuit diagram, the value of the parts is



BASIC CIRCUIT DIAGRAM


3
4
5
6
A
B
C
T901
SW TRANS
E998 7000
C977 680P/500
D972 RU4YX
L919 10u
C961 1200/35 CE-M
E997 7000
C971 680P/500
D913 RU4YX
L905 10u
C915 1200/35 CE-M
C972 680P/500
ED94
D914 RU4YX
E995 7000
C918 1200/35 CE-M
C973 680P/500
ED95
D915 RU4YX
E996 7000
C925 1200/35 CE-M
C916 0.01 MYL-K
C917 2200P CK-K
C919 0.22 MYL-K
C926 0.22 MYL-K
+27V
GND
-23V
+31V
+B
C974 680P/500
D916 RU4YX
D973 1SR153-400
C927 1200/35 CE-M
L906 10μH
C928 1200/35 CE-M
C963 22/50 CE-M
C975 680P/500
E999 7000
C976 470P/2KV
D929 RU4AM
ED99
C929 390/160 CE-M
R979 6.8K RD1/2J
R926 18K
R925 680 RD1/2J
D908 1SR153-400
C959 2200P/AC250
R911 2.7K
C966 0.22 MYL-K
I902 2501-1
I903 2501-1
I904 2501-1
Q902 2SC3852 2SD2375 (P)
R975 470 RS2J
C920 100/35 CE-M
D917 1SR139-400
D918 MTZJ27A
C921 100/35 CE-M
D966 381C-06-T1
R918 12K RD1/8J
R919 10K RD1/8J
D967 381C-06-T1
+27V
-23V
I908 BA17812 AHF
C922 100/16 CE-M
C923 100/35 CE-M
I909 NJM7912 AHF
C924 220/16 CE-M
L925
I910 SI-8402L
12V
L927
L926
L907 100u
C930 1200/16 CE-M
C931 470/16 CE-M
I912 SI-8090S
L909 200uH (2A)
R929 150
C935 470/35 CE-M
D928 RK14
R930 3.3K
C937 2200/10 CE-M
D946 381C-06-T1
TV9V
R974 3.3K
R920 3.3K
R921 3.3K
D920 1SS254
D919 MTZJ15C
D921 MTZJ6.2A
D922 HTZJ30C
R922 22K
R923 18K
D923 1SS254
D924 MTZJ3.0B
D925 MTZJ24D
L913 100u
L912 100u
L917 100u
L921
L914 100u
C969 4700P CK-K
L922 100uH
C940 470/16 CE-M
C939 100/35 CE-M
D943 1SS254
D944 1SS254
L915 10u
C941 0.22 MYL-K
D945 1SR153-400
D976 1SR153-400
R991 10K RD1/8J
R946 15K RD1/4J
D977 381C-06-T AUDIO 22V
D947 381C-06-T1 AUDIO 32V
TO DEF.
vert+26V
12V
27V
M23V
M12V
TV9V
GND
PSD4
8B
1 VM26V
2 TV9V
3 TV9V
4 GND
5 GND
6 TV12V
7 AUDIO GND
8 AUDIO GND
9 AUDIO GND
10 AUDIO 32V
11 AUDIO 22V
12 AUDIO 32V
13 AUDIO 22V
R931 0.47 (1W)
Q903 2SA821S
R932 10K
R933 22K
R934 82K RD1/2J
C942 47/16 CE-M
C957 22/16 CE-M
R977 47K
D931 MTZJ30C
D933 MTZJ6.8B
D932 1SS254
D971 MTZJ7.5C
L910 68u
R937 3.3K
Q914 03P2M
C943 1/50 CE-M
R948 1K
R950 820
R949 1.5K
R935 4.7K
R959 1K RD1/2J
Q905 2SC458 (B/C)
Q906 2SC458 (B/C)
C945 10/16 CE-M
R940 10K
I913 SI-8050S
L911 200uH (2A)
D938 RK14
R941 22
R942 1.2K
R989 470
D975 1SS254
R990 22K
C965 33/16 CE-M
Q918 2SC458 (B/C)
R943 1.5K
C948 4700/6.3 CE-M
D939 381C-06-T1 TV5V
D936 MTZJ12C
D942 MTZJ6.8B
D937 1SS254
D941 1SS254
E994 2000
R944 56K RD1/2J
R945 56K RD1/2J
D940 381C-06-T1 +B120V
B+120V
HVPROTECT
xrayPROTECT
R971 560
D960 1SS254
D961 1SS254
D948 1SS254
R952 220
R993 1K
Q907 2SC3416S
R958 18K
Q908 2SC458 (B/C)
R957
R988 560 RD1/2J
D951
C952 10/16 CE-M
R962 100K
Q909 2SA673 (C/D)
D952 1SS254
R963 5.6K
D956 1SS254
C954 10/16 CE-M
R969 100K
Q913 2SA673 (C/D)
R970 5.6K
R968 1K
D957 MTZ15C
D959 1SS254
D958 1SS254
R981 10K
R983 10K


I903
2501-1
I904
2501-1
00
C958
1000P/AC125
H901
LIVE
COLD
R993
1K
D948
1SS254
R952
220
C949
0.1
MYL-K
R954
22K
R955
1K
I905
SE120N
Q907
2SC3415S
R958
18K
Q908
2SC458
(B/C)
R957
3.3K
C955
0.1
MYL-K
R988
560
RD1/2J
D951
MTZJ4.7B
R960
10K
C952
10/16
CE-M
Q909
2SA673
(C/D)
D952
1SS254
R962
100K
R963
5.6K
C956
0.1
MYL-K
D962
1SS254
D939
381C-06-T1
TV5V
B120V
D956
1SS254
C954
10/16
CE-M
Q913
2SA673
(C/D)
R969
100K
R970
5.6K
R968
1K
Q912
2SC458
(B/C)
D957
MTZ15C
D959
1SS254
D958
1SS254
R980
10K
D963
1SS254
A12V D964
381C-06-T1
R972
4.7K
R992
5.6K
3W
R971
560
D960
1SS254
HVPROTECT
D961
1SS254
xrayPROTECT
R981
10K
R983
10K
D974
MTZJ5.6A
R982
3.9K
Q917
2SA673
(C/D)
Q916
2SC458
(B/C)
C962
100/16
CE-M
C964
1000/16
CE-M
B+120V
HVcc
A+12V
ACK5V
ANA4
PSD5 BB
VT33
RESERVE1
GND
GND
GND
GND
PSD3
BB
A12V
TV ON/OFF
GND
ACK
GND
RESERVE2
GND
PROTECT
TV5V
SURGE. GND.
SIGNAL
TO SIGNAL P.W.B.

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

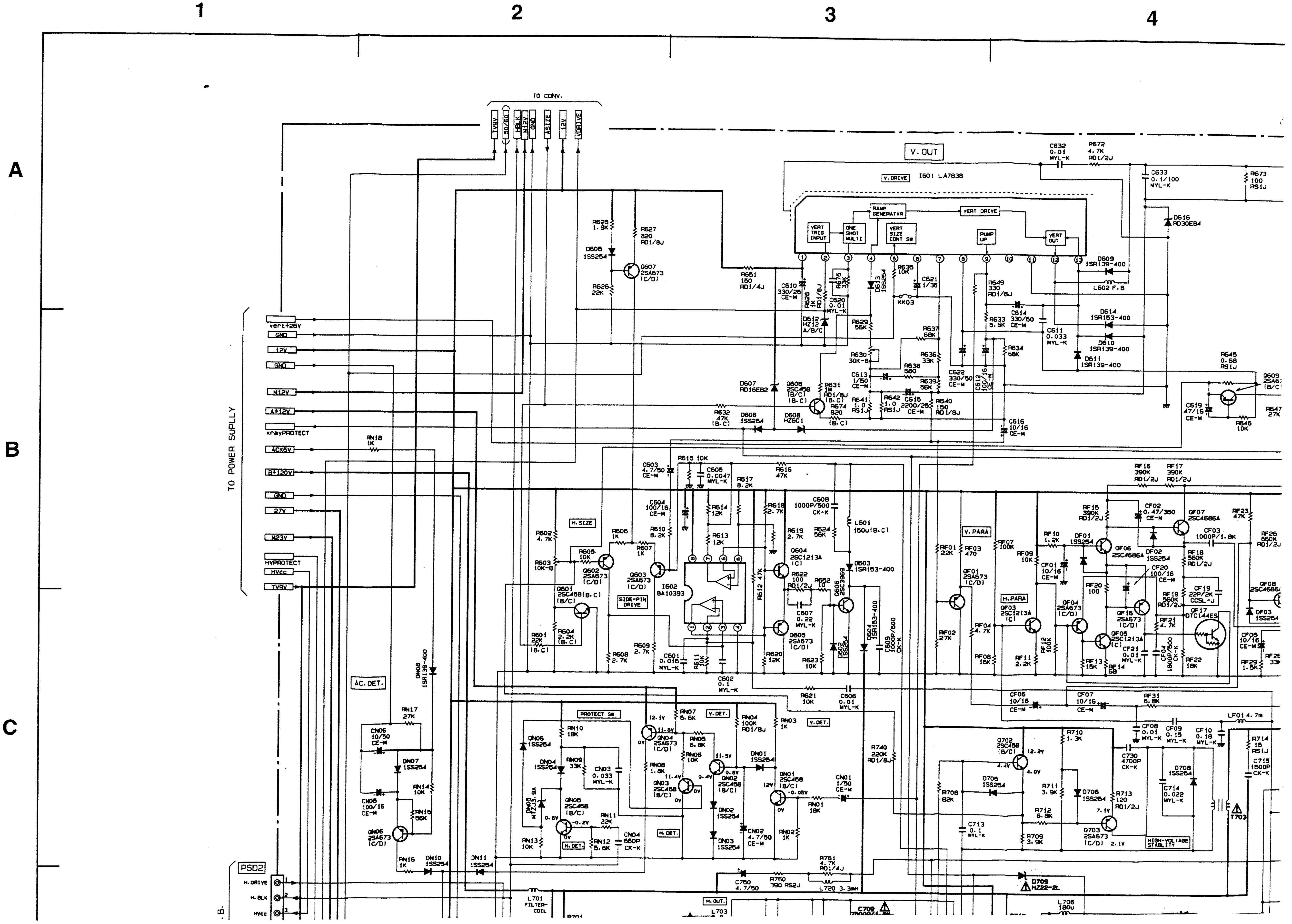
POWER SUPPLY P.W.B.

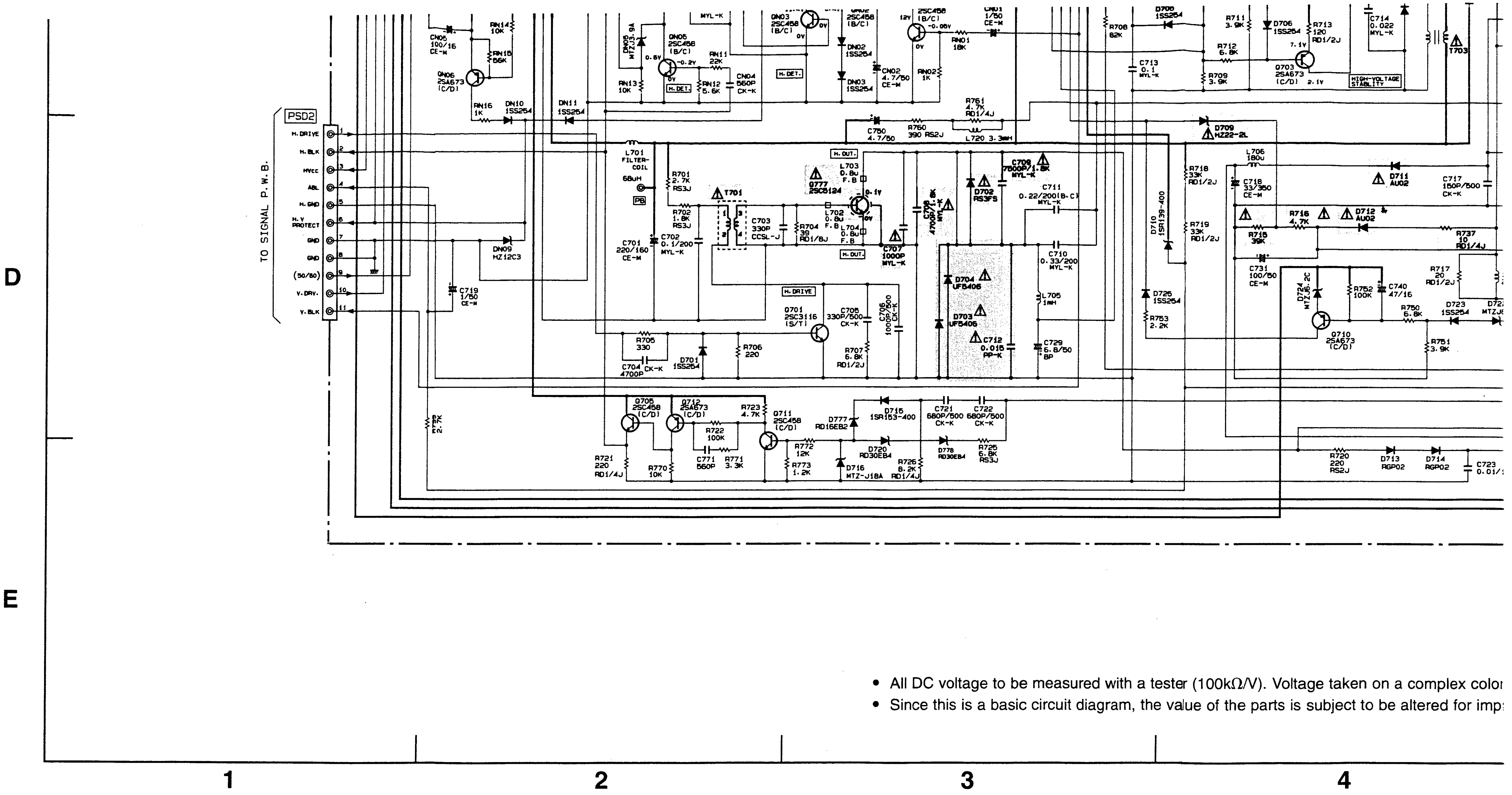
D

E

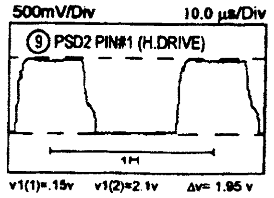
3 4 5 6

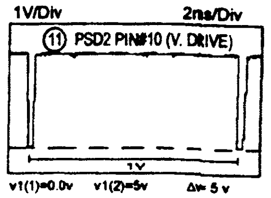
BASIC CIRCUIT DIAGRAM

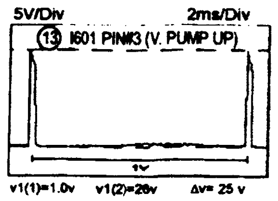

1
2
3
4
A
B
C
TO CONV.
TV9V
50/60
HBLK
M12V
GND
ASIZE
12V
VDRIVE
V. OUT
V.DRIVE
I601 LA7838
RAMP GENERATAR
VERT DRIVE
VERT TRIG INPUT
ONE SHOT MULTI
VERT SIZE CONT SW
PUMP UP
VERT OUT
TO POWER SUPPLY
vert+26V
GND
12V
GND
M12V
A+12V
xrayPROTECT
ACK5V
B+120V
GND
27V
M23V
HVPROTECT
HVCC
TV9V
H. SIZE
SIDE-PIN DRIVE
I602 BA10393
V. PARA
H. PARA
AC. DET.
PROTECT SW
V. DET.
H. DET.
H. OUT.
HIGH-VOLTAGE STABILITY
PSD2
H. DRIVE
H. BLK
HVCC
L701 FILTER-COIL
L601 150u(B-C)
L602 F.B
T703
D709 HZ22-2L
L720 3.3mH
LF01 4.7m
L706 180u
L703
Q607 2SA673 (C/D)
Q608 2SC458 (B/C)
Q609 2SA6
Q601 2SC458(B-C)
Q602 2SA673 (C/D)
Q603 2SA673 (C/D)
Q604 2SC1213A (C)
Q605 2SA673 (C/D)
Q606 2SC3969
QF01 2SA673 (C/D)
QF03 2SC1213A (C)
QF04 2SA673 (C/D)
QF05 2SC1213A (C)
QF06 2SC4686A
QF07 2SC4686A
QF08 2SC4686
QF16 2SA673 (C/D)
QF17 DTC144ES
QN02 2SC458 (B/C)
QN03 2SC458 (B/C)
QN04 2SA673 (C/D)
QN05 2SC458 (B/C)
QN06 2SA673 (C/D)
QN01 2SC458 (B/C)
Q702 2SC458 (B/C)
Q703 2SA673 (C/D)

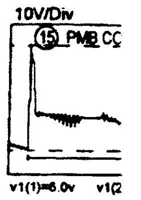

D
E
1
2
3
4
TO SIGNAL P.W.B.
PSD2
H.DRIVE
H.BLK
HVcc
ABL
H.GND
H.V PROTECT
GND
GND
(50/60)
V.DRV.
V.BLK
QN06 2SA673 (C/D)
QN05 2SC458 (B/C)
QN03 2SC458 (B/C)
DN10 1SS254
DN11 1SS254
DN09 HZ12C3
L701 FILTER-COIL 68uH
R701 2.7K RS3J
R702 1.8K RS3J
C701 220/160 CE-M
C702 0.1/200 MYL-K
T701
C703 330P CCSL-J
R704 39 RD1/8J
Q777 2SC5124
L703 0.8u F.B
L702 0.8u F.B
L704 0.8u F.B
H.OUT.
H.DRIVE
Q701 2SC3116 (S/T)
C705 330P/500 CK-K
C706 1000P/500 CK-K
R707 6.8K RD1/2J
C707 1000P MYL-K
C708 4700P/1.6K MYL-K
C709 7500P/1.6K MYL-K
D702 RS3FS
D704 UF5406
D703 UF5406
C712 0.015 PP-K
C711 0.22/200(B-C) MYL-K
C710 0.33/200 MYL-K
L705 1mH
C729 6.8/50 BP
R705 330
C704 4700P CK-K
D701 1SS254
R706 220
C719 1/50 CE-M
C750 4.7/50
R760 390 RS2J
R761 4.7K RD1/4J
L720 3.3mH
Q705 2SC458 (C/D)
Q712 2SA673 (C/D)
R723 4.7K
R722 100K
C771 560P
R771 3.3K
R721 220 RD1/4J
R770 10K
Q711 2SC458 (C/D)
R772 12K
R773 1.2K
D716 MTZ-J18A
D777 RD16EB2
D715 1SR153-400
C721 680P/500 CK-K
C722 680P/500 CK-K
D720 RD30EB4
D778 RD30EB4
R725 6.8K RS3J
R726 8.2K RD1/4J
R708 82K
D705 1SS254
C713 0.1 MYL-K
R711 3.9K
R712 6.8K
R709 3.9K
D706 1SS254
R713 120 RD1/2J
Q703 2SA673 (C/D)
C714 0.022 MYL-K
HIGH-VOLTAGE STABILITY
T703
D709 HZ22-2L
L706 180u
R718 33K RD1/2J
C718 33/350 CE-M
D710 1SR139-400
R719 33K RD1/2J
D726 1SS254
R753 2.2K
R715 39K
R716 4.7K
D712 AU02
D711 AU02
C717 150P/500 CK-K
C731 100/50 CE-M
D724 MTZJ6.2C
R752 100K
C740 47/16
R750 6.8K
Q710 2SA673 (C/D)
R737 10 RD1/4J
R717 20 RD1/2J
D723 1SS254
R751 3.9K
R720 220 RS2J
D713 RGP02
D714 RGP02
C723 0.01/

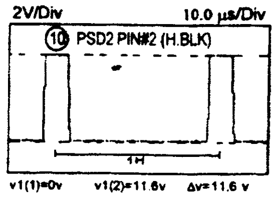
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex colo
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for imp

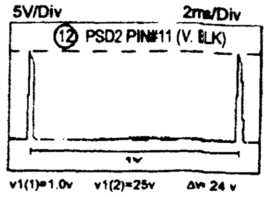


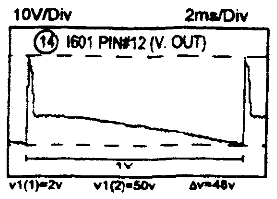


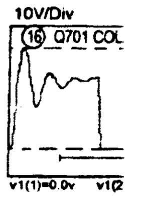






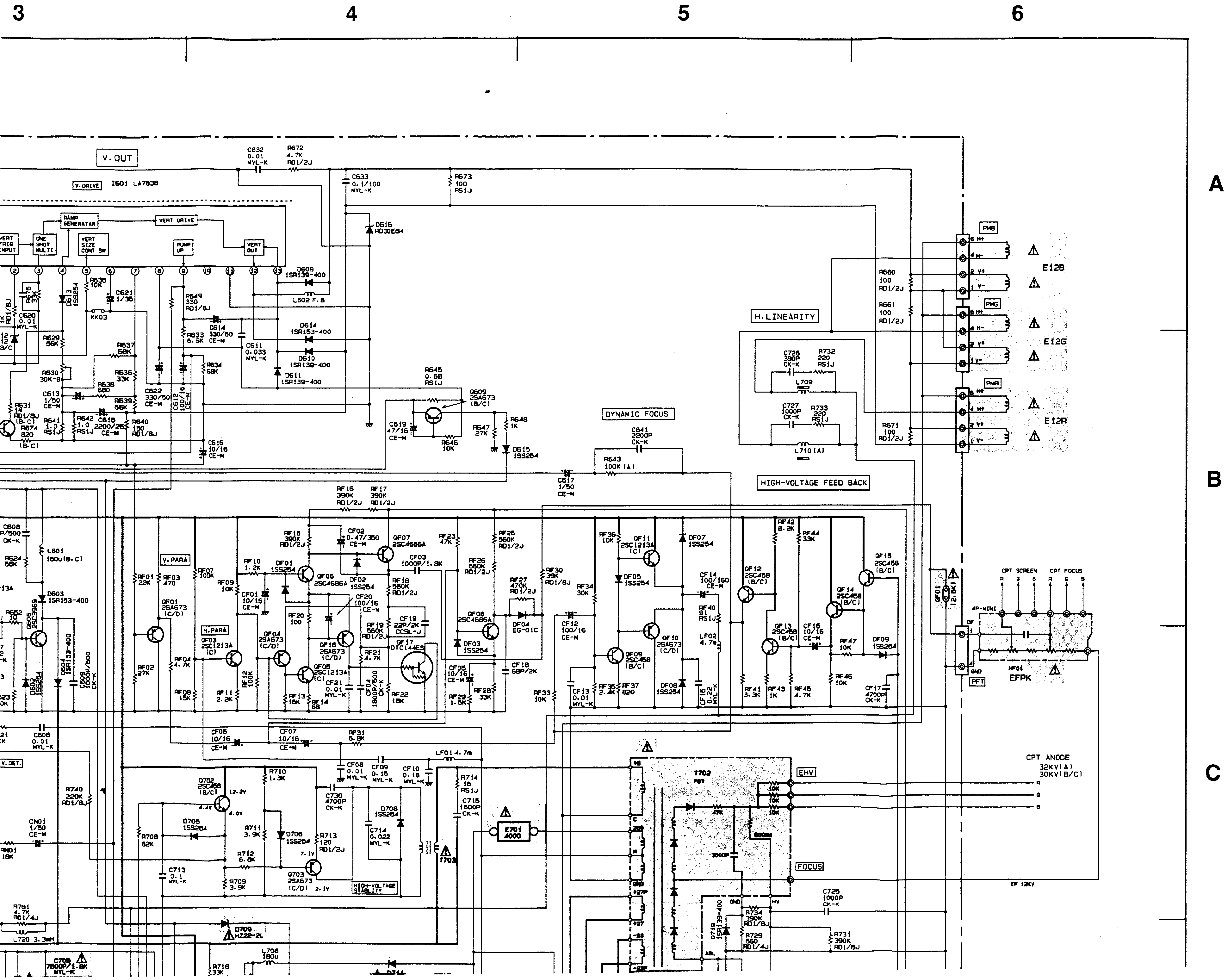






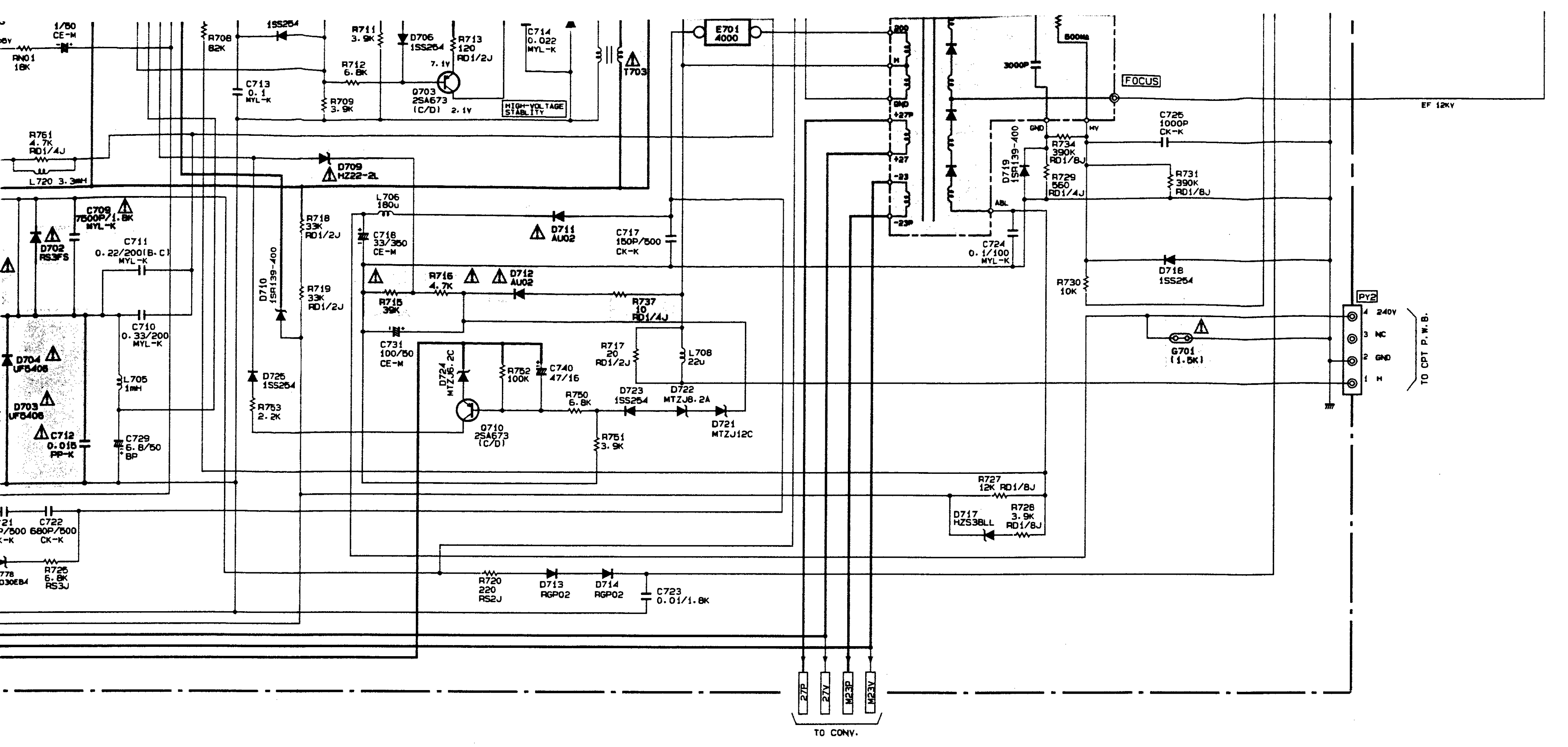
GRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


3
4
5
6
A
B
C
V.OUT
V.DRIVE
I601 LA7838
RAMP GENERATOR
VERT DRIVE
VERT TRIG INPUT
ONE SHOT MULTI
VERT SIZE CONT SW
PUMP UP
VERT OUT
C632 0.01 MYL-K
R672 4.7K RD1/2J
C633 0.1/100 MYL-K
R673 100 RS1J
D616 RD30EB4
D609 1SR139-400
L602 F.B
D614 1SR153-400
D610 1SR139-400
D611 1SR139-400
KK03
R645 0.68 RS1J
Q609 2SA673 (B/C)
C619 47/16 CE-M
R647 27K
R646 10K
R648 1K
D615 1SS254
H.LINEARITY
C726 390P CK-K
R732 220 RS1J
L709
C727 1000P CK-K
R733 220 RS1J
L710 (A)
HIGH-VOLTAGE FEED BACK
DYNAMIC FOCUS
C641 2200P CK-K
R643 100K (A)
C617 1/50 CE-M
R660 100 RD1/2J
R661 100 RD1/2J
R671 100 RD1/2J
PMB
PMG
PMR
E12B
E12G
E12R
V.PARA
H.PARA
QF01 2SA673 (C/D)
QF03 2SC1213A (C)
QF04 2SA673 (C/D)
QF05 2SC1213A (C)
QF06 2SC4686A
QF07 2SC4686A
QF08 2SC4686A
QF09 2SC458 (B/C)
QF10 2SA673 (C/D)
QF11 2SC1213A (C)
QF12 2SC458 (B/C)
QF13 2SC458 (B/C)
QF14 2SC458 (B/C)
QF15 2SC458 (B/C)
QF16 2SA673 (C/D)
QF17 DTC144ES
DF01 1SS254
DF02 1SS254
DF03 1SS254
DF04 EG-01C
DF05 1SS254
DF07 1SS254
DF08 1SS254
DF09 1SS254
LF01 4.7m
LF02 4.7m
CPT SCREEN
CPT FOCUS
4P-MINI
HF01 EFPK
PFT
GND
CPT ANODE 32KV(A) 30KV(B/C)
EF 12KY
T702 FBT
EHV
FOCUS
ABL
HV
C728 1000P CK-K
R731 390K RD1/8J
R734 390K RD1/8J
R729 560 RD1/4J
D719 1SR139-400
E701 4000
T703
Q702 2SC458 (B/C)
Q703 2SA673 (C/D)
D705 1SS254
D706 1SS254
D708 1SS254
HIGH-VOLTAGE STABLITY
R740 220K RD1/8J
CN01 1/50 CE-M
L601 150u(B-C)
D603 1SR153-400
D709 HZ22-2L
L706 180u
L720 3.3mH
C709 7500P/1.6K MYL-K
V.DET.

Circuit No.	Pin Name	Voltage DC
Q712	E	12.0
	B	17.0
	C	2.0
Q777	E	0
	B	0
	C	119.0
QF01	E	8.1
	B	7.5
	C	0
QF03	E	0.9
	B	1.5
	C	6.9
QF04	E	7.3
	B	6.9
	C	0.7
QF05	E	0.1
	B	0.7
	C	11.4
QF06	E	11.1
	B	12.1
	C	432.1
QF07	E	552.2
	B	448.5
	C	1096
QF08	E	11.1
	B	11.4
	C	638.5
QF09	E	0.2
	B	0.9
	C	7.9
QF10	E	8.2
	B	7.9
	C	0
QF11	E	8.2
	B	8.4
	C	11.7
QF12	E	4.2
	B	4.8
	C	11.7
QF13	E	0.8
	B	1.4
	C	4.8
QF14	E	8.8
	B	9.4
	C	11.7
QF15	E	9.4
	B	9.7
	C	11.7
QF16	E	11.6
	B	11.4
	C	0
QF17	E	0
	B	0
	C	6.9
	E	0

Circuit No.	Pin No.	Voltage DC
I601	1	11.3
	2	4.8
	3	5.4
	4	5.6
	5	0
	6	5.1
	7	5.5
	8	25.0
	9	1.6
	10	1.3
	11	0
	12	12.8
	13	24.7
I602	1	4.8
	2	2.1
	3	2.2
	4	0
	5	2.9
	6	4.8
	7	2.4
	8	11.7
Q602	E	5.4
	B	4.8
	C	2.1
Q603	E	5.9
	B	5.3
	C	0.5
Q604	E	4.6
	B	4.8
	C	11.7
Q605	E	4.6
	B	4.8
	C	0
Q606	E	0
	B	0
	C	48.7
Q607	E	11.2
	B	10.3
	C	6.1
Q609	E	25.1
	B	24.8
	C	0
Q701	E	0
	B	0.4
	C	27.8
Q702	E	3.4
	B	3.1
	C	11.7
Q703	E	9.2
	B	8.6
	C	1.7
Q705	E	1.8
	B	2.0
	C	12.0
	E	4.7


E701
4000
FOCUS
R708
82K
1SS264
R711
3.9K
D706
1SS264
R713
120
RD1/2J
C714
0.022
MYL-K
T703
R712
6.8K
C713
0.1
MYL-K
R709
3.9K
Q703
2SA673
(C/D)
7.1V
2.1V
HIGH-VOLTAGE STABILITY
R761
4.7K
RD1/4J
L720 3.3mH
D709
HZ22-2L
L706
180u
R718
33K
RD1/2J
C718
33/350
CE-M
D711
AU02
C717
150P/500
CK-K
C709
7500P/1.6K
MYL-K
D702
RS3FS
C711
0.22/200(B.C)
MYL-K
D710
1SR139-400
R719
33K
RD1/2J
R716
4.7K
D712
AU02
R715
39K
R737
10
RD1/4J
C710
0.33/200
MYL-K
D704
UF5406
L705
1mH
C731
100/50
CE-M
D724
MTZJ6.2C
R752
100K
C740
47/16
R717
20
RD1/2J
L708
22u
D703
UF5406
C712
0.018
PP-K
C729
6.8/50
BP
D725
1SS264
R753
2.2K
R750
6.8K
D723
1SS264
D722
MTZJ8.2A
D721
MTZJ12C
Q710
2SA673
(C/D)
R751
3.9K
C722
680P/500
CK-K
R725
6.8K
RS3J
R720
220
RS2J
D713
RGP02
D714
RGP02
C723
0.01/1.8K
27P
27V
M23P
M23V
TO CONV.
200
H
GND
+27P
+27
-23
-23P
800mA
3000P
GND
HV
ABL
D719
1SR139-400
R734
390K
RD1/8J
R729
560
RD1/4J
C725
1000P
CK-K
R731
390K
RD1/8J
C724
0.1/100
MYL-K
R730
10K
D718
1SS264
G701
(1.5K)
PY2
4 240V
3 NC
2 GND
1 H
TO CPT P.W.B.
EF 12KV
R727
12K RD1/8J
D717
HZS38LL
R728
3.9K
RD1/8J

QF15	B	9.7
	C	11.7
QF16	E	11.6
	B	11.4
	C	0
QF17	E	0
	B	0
	C	6.9
QN01	E	0
	B	0
	C	11.8
QN02	E	0.5
	B	0.9
	C	11.8
QN03	E	0
	B	0.4
	C	11.8
QN04	E	11.8
	B	11.8
	C	0
QN05	E	0
	B	0
	C	0.6
QN06	E	9.1
	B	9.1
	C	0

Q702	B	3.1
	C	11.7
Q703	E	9.2
	B	8.6
	C	1.7
Q705	E	1.8
	B	2.0
	C	12.0
Q710	E	4.7
	B	5.0
	C	0
Q711	E	0
	B	0.0
	C	10.0

D

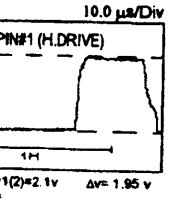
E

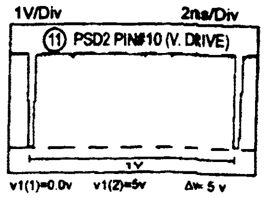
oltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

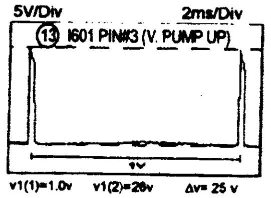
is is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

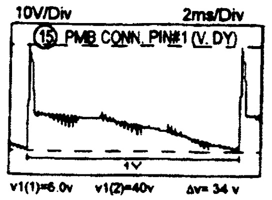
DEFLECTION P.W.B.

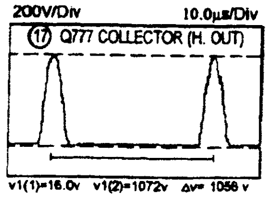
3 4 5 6

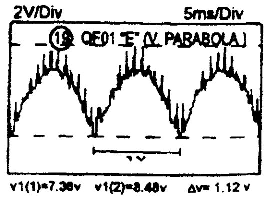


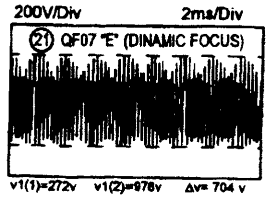


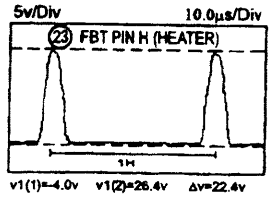


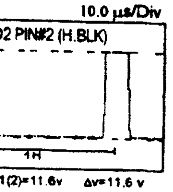


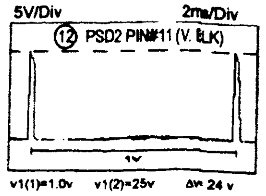


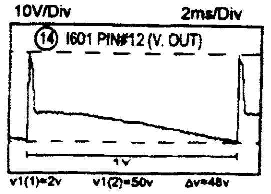


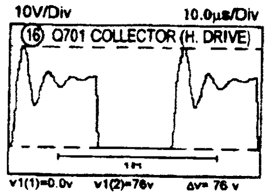


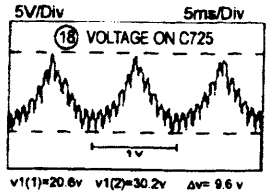


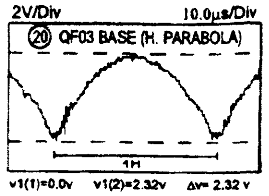


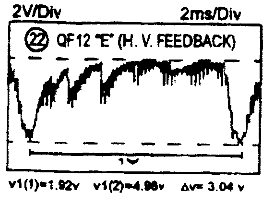










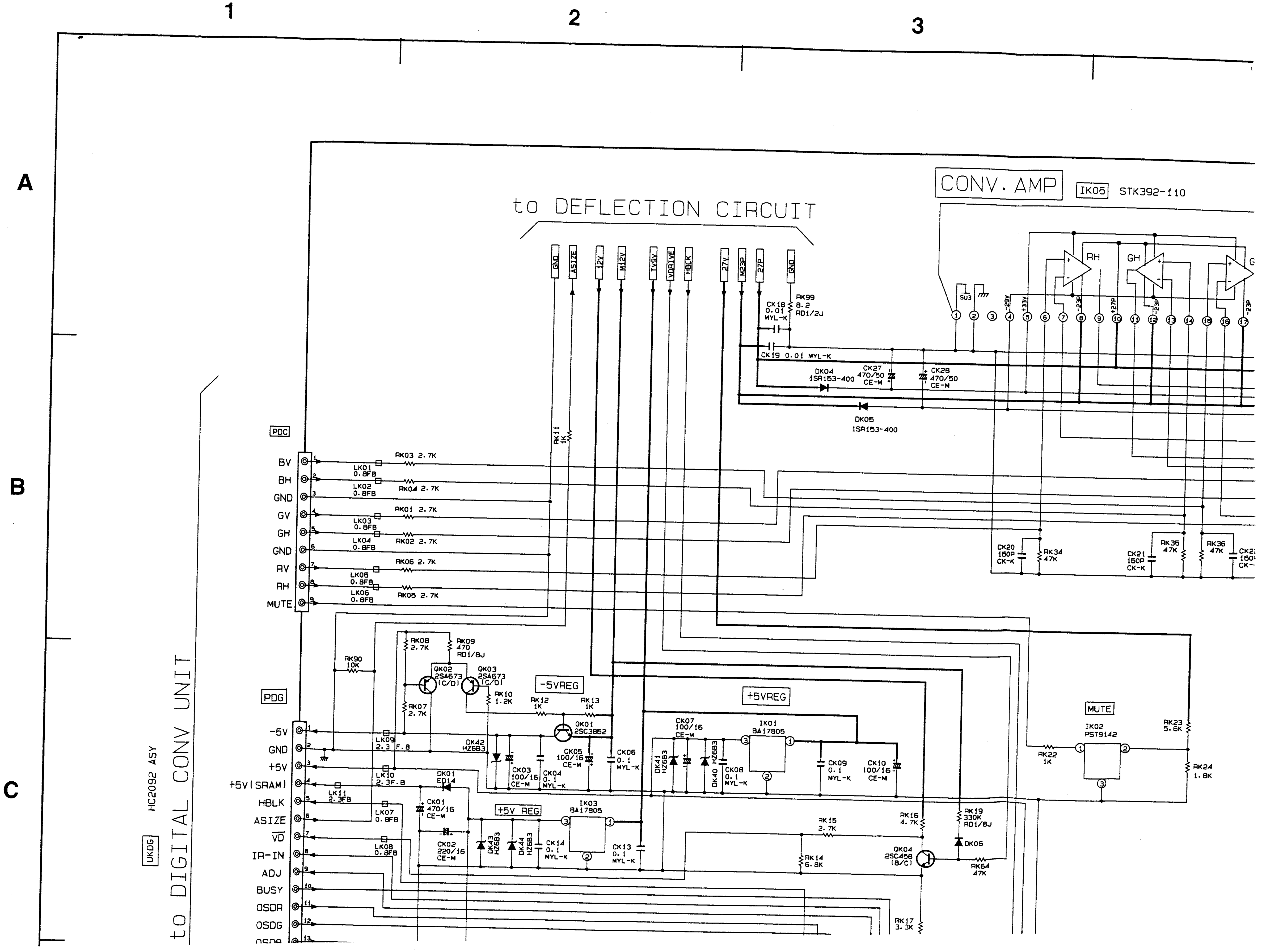


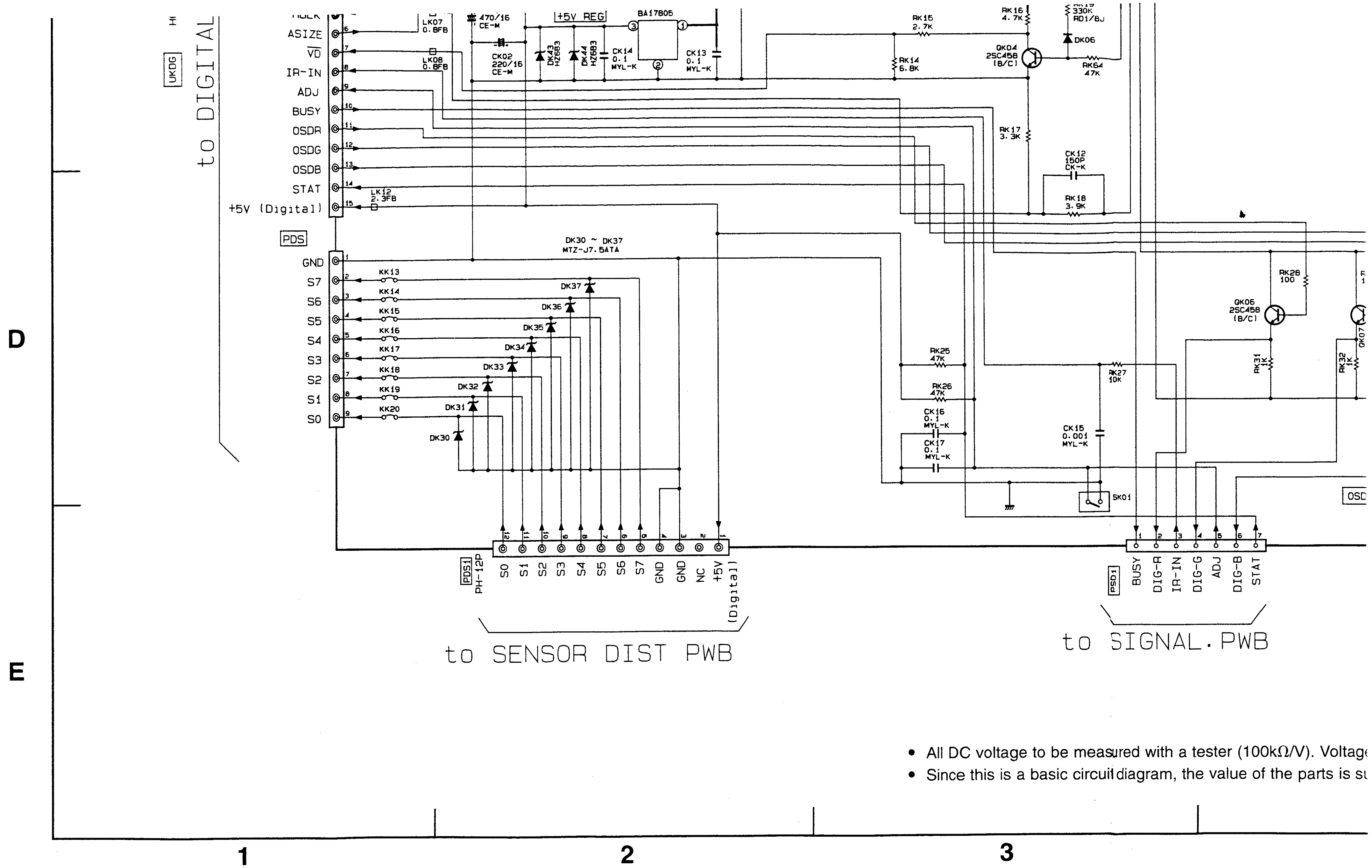
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC

Circuit No.	Pin No.	Voltage DC
IK01	1	9.5
	2	0
	3	5.0
IK02	1	4.6
	2	6.8
	3	0
IK03	1	9.5
	2	0
	3	5.0
IK04	1	0
	2	0
	3	-29.5
	4	-30.6
	5	35.2
	6	0
	7	0
	8	-22.4
	9	0
	10	27.4
	11	0
	12	-22.9
	13	0
	14	0
	15	0
	16	0
	17	-22.5
	18	0

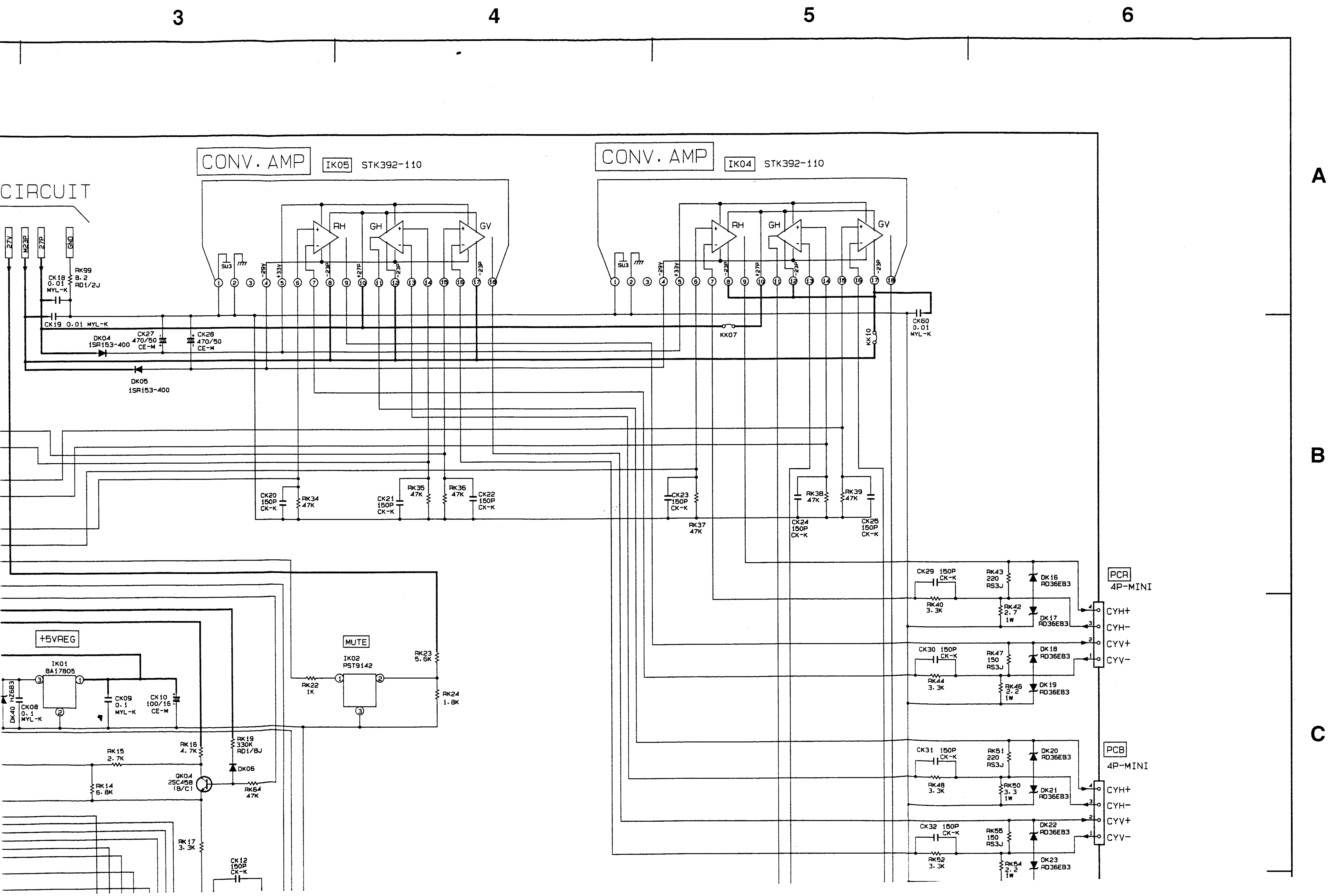
Circuit No.	Pin No.	Voltage DC
IK05	1	0
	2	0
	3	-29.5
	4	-30.7
	5	35.2
	6	0
	7	-0.8
	8	-22.47
	9	-0.5
	10	27.4
	11	-0.6
	12	-22.5
	13	-0.5
	14	-0.5
	15	-0.3
	16	-0.3
	17	-22.5
	18	-0.2
QK01	E	-12.1
	B	-11.6
	C	-5.3
QK02	E	0.6
	B	-0.1
	C	0
QK03	E	0.6
	B	0
	C	-10.9
QK04	E	0
	B	0.6
	C	0.3
QK06	E	0
	B	0
	C	5.0
QK07	E	0
	B	0
	C	5.0
QK08	E	0
	B	0
	C	5.0

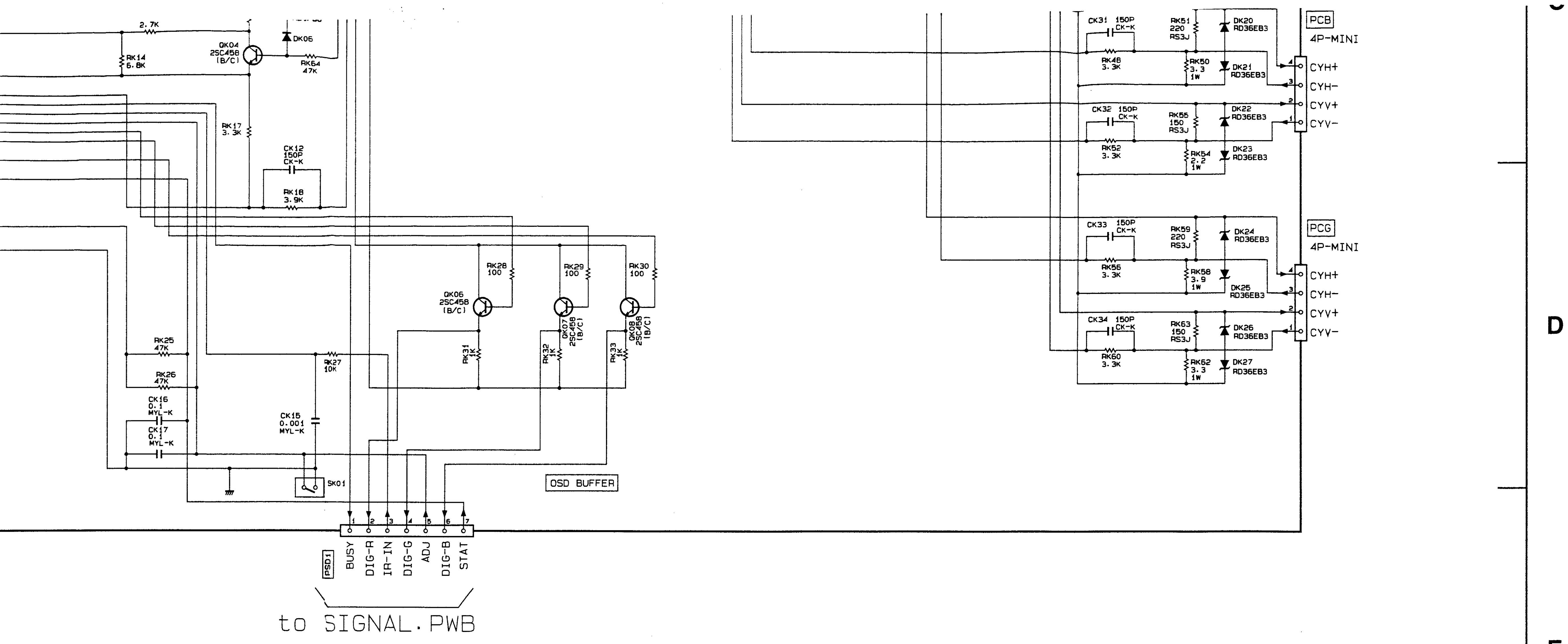

1
2
3
A
B
C
to DEFLECTION CIRCUIT
GND
ASIZE
12V
M12V
TV9V
VDRIVE
HBLK
27V
M23P
27P
GND
CK18 0.01 MYL-K
RK99 8.2 RD1/2J
CK19 0.01 MYL-K
DK04 1SR153-400
CK27 470/50 CE-M
CK28 470/50 CE-M
DK05 1SR153-400
RK11 1K
CONV. AMP
IK05 STK392-110
RH
GH
SU3
-29V
+33V
-23P
+27P
-23P
-23P
CK20 150P CK-K
RK34 47K
CK21 150P CK-K
RK35 47K
RK36 47K
PDC
BV
BH
GND
GV
GH
GND
RV
RH
MUTE
LK01 0.8FB
LK02 0.8FB
LK03 0.8FB
LK04 0.8FB
LK05 0.8FB
LK06 0.8FB
RK03 2.7K
RK04 2.7K
RK01 2.7K
RK02 2.7K
RK06 2.7K
RK05 2.7K
RK90 10K
RK08 2.7K
RK09 470 RD1/8J
QK02 2SA673 (C/D)
QK03 2SA673 (C/D)
RK07 2.7K
RK10 1.2K
-5VREG
RK12 1K
RK13 1K
QK01 2SC3852
DK42 HZ6B3
CK03 100/16 CE-M
CK04 0.1 MYL-K
CK05 100/16 CE-M
CK06 0.1 MYL-K
+5VREG
CK07 100/16 CE-M
DK41 HZ6B3
DK40 HZ6B3
CK08 0.1 MYL-K
IK01 BA17805
CK09 0.1 MYL-K
CK10 100/16 CE-M
MUTE
IK02 PST9142
RK22 1K
RK23 5.6K
RK24 1.8K
PDG
-5V
GND
+5V
+5V(SRAM)
HBLK
ASIZE
$\overline{VD}$
IR-IN
ADJ
BUSY
OSDR
OSDG
LK09 2.3 F.8
LK10 2.3F.8
LK11 2.3FB
LK07 0.8FB
LK08 0.8FB
DK01 ED14
CK01 470/16 CE-M
CK02 220/16 CE-M
+5V REG
DK43 HZ6B3
DK44 HZ6B3
CK14 0.1 MYL-K
IK03 BA17805
CK13 0.1 MYL-K
RK15 2.7K
RK14 6.8K
RK16 4.7K
QK04 2SC458 (B/C)
RK19 330K RD1/8J
DK06
RK64 47K
RK17 3.3K
UKDG
HC2092 ASY
to DIGITAL CONV UNIT


to DIGITAL
UKDG
ASIZE
VD
IR-IN
ADJ
BUSY
OSDR
OSDG
OSDB
STAT
+5V (Digital)
PDS
GND
S7
S6
S5
S4
S3
S2
S1
S0
LK07 0.8FB
LK08 0.8FB
LK12 2.3FB
470/16 CE-M
CK02 220/16 CE-M
+5V REG
DK43 HZ6B3
DK44 HZ6B3
CK14 0.1 MYL-K
BA17805
CK13 0.1 MYL-K
DK30 ~ DK37 MTZ-J7.5ATA
KK13
KK14
KK15
KK16
KK17
KK18
KK19
KK20
DK30
DK31
DK32
DK33
DK34
DK35
DK36
DK37
RK15 2.7K
RK14 6.8K
RK16 4.7K
330K RD1/8J
DK06
QK04 2SC458 (B/C)
RK64 47K
RK17 3.3K
CK12 150P CK-K
RK18 3.9K
RK25 47K
RK26 47K
CK16 0.1 MYL-K
CK17 0.1 MYL-K
CK15 0.001 MYL-K
RK27 10K
SK01
RK28 100
QK06 2SC458 (B/C)
RK31 1K
RK32 1K
QK07
OSD
PDS1
PH-12P
S0
S1
S2
S3
S4
S5
S6
S7
GND
GND
NC
+5V (Digital)
to SENSOR DIST PWB
PSD1
BUSY
DIG-R
IR-IN
DIG-G
ADJ
DIG-B
STAT
to SIGNAL.PWB
D
E
1
2
3

- All DC voltage to be measured with a tester (100kΩ/V). Voltag
- Since this is a basic circuit diagram, the value of the parts is s

BASIC CIRCUIT DIAGRAM


3
4
5
6
A
B
C
CIRCUIT
27V
M23P
27P
GND
CONV. AMP
IK05 STK392-110
CONV. AMP
IK04 STK392-110
RH
GH
GV
SU3
-29V
+33V
-23P
+27P
CK18 0.01 MYL-K
RK99 8.2 RD1/2J
CK19 0.01 MYL-K
DK04 1SR153-400
CK27 470/50 CE-M
CK28 470/50 CE-M
DK05 1SR153-400
KK07
KK10
CK60 0.01 MYL-K
CK20 150P CK-K
RK34 47K
CK21 150P CK-K
RK35 47K
RK36 47K
CK22 150P CK-K
CK23 150P CK-K
RK37 47K
RK38 47K
RK39 47K
CK24 150P CK-K
CK25 150P CK-K
CK29 150P CK-K
RK40 3.3K
RK43 220 RS3J
RK42 2.7 1W
DK16 RD36EB3
DK17 RD36EB3
CK30 150P CK-K
RK44 3.3K
RK47 150 RS3J
RK46 2.2 1W
DK18 RD36EB3
DK19 RD36EB3
PCR
4P-MINI
CYH+
CYH-
CYV+
CYV-
CK31 150P CK-K
RK48 3.3K
RK51 220 RS3J
RK50 3.3 1W
DK20 RD36EB3
DK21 RD36EB3
CK32 150P CK-K
RK52 3.3K
RK55 150 RS3J
RK54 2.2 1W
DK22 RD36EB3
DK23 RD36EB3
PCB
4P-MINI
CYH+
CYH-
CYV+
CYV-
+5VREG
IK01 BA17805
DK40 HZ6B3
CK08 0.1 MYL-K
CK09 0.1 MYL-K
CK10 100/16 CE-M
MUTE
IK02 PST9142
RK22 1K
RK23 5.6K
RK24 1.8K
RK15 2.7K
RK14 6.8K
RK16 4.7K
RK19 330K RD1/8J
DK06
QK04 2SC458 (B/C)
RK64 47K
RK17 3.3K
CK12 150P CK-K


2.7K
RK14 6.8K
QK04 2SC458 (B/C)
DK06
RK64 47K
RK17 3.3K
CK12 150P CK-K
RK18 3.9K
RK28 100
RK29 100
RK30 100
QK06 2SC458 (B/C)
QK07 2SC458 (B/C)
QK08 2SC458 (B/C)
RK31 1K
RK32 1K
RK33 1K
RK25 47K
RK26 47K
CK16 0.1 MYL-K
CK17 0.1 MYL-K
RK27 10K
CK15 0.001 MYL-K
SK01
OSD BUFFER
PSD1
BUSY
DIG-R
IR-IN
DIG-G
ADJ
DIG-B
STAT
to SIGNAL.PWB
CK31 150P CK-K
RK51 220 RS3J
DK20 RD36EB3
RK48 3.3K
RK50 3.3 1W
DK21 RD36EB3
CK32 150P CK-K
RK55 150 RS3J
DK22 RD36EB3
RK52 3.3K
RK54 2.2 1W
DK23 RD36EB3
PCB
4P-MINI
CYH+
CYH-
CYV+
CYV-
CK33 150P CK-K
RK59 220 RS3J
DK24 RD36EB3
RK56 3.3K
RK58 3.9 1W
DK25 RD36EB3
CK34 150P CK-K
RK63 150 RS3J
DK26 RD36EB3
RK60 3.3K
RK62 3.3 1W
DK27 RD36EB3
PCG
4P-MINI
CYH+
CYH-
CYV+
CYV-
D
E

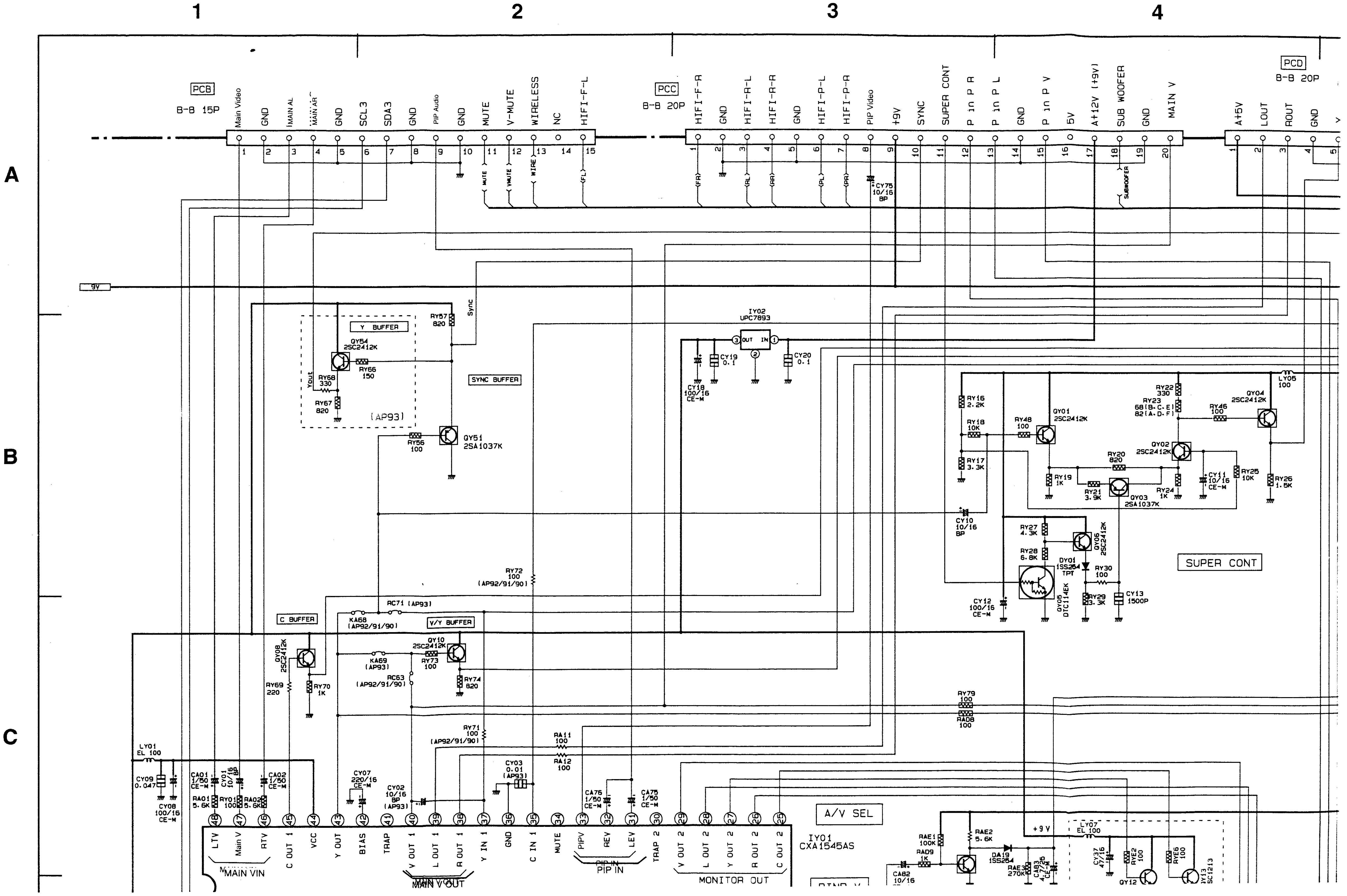
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

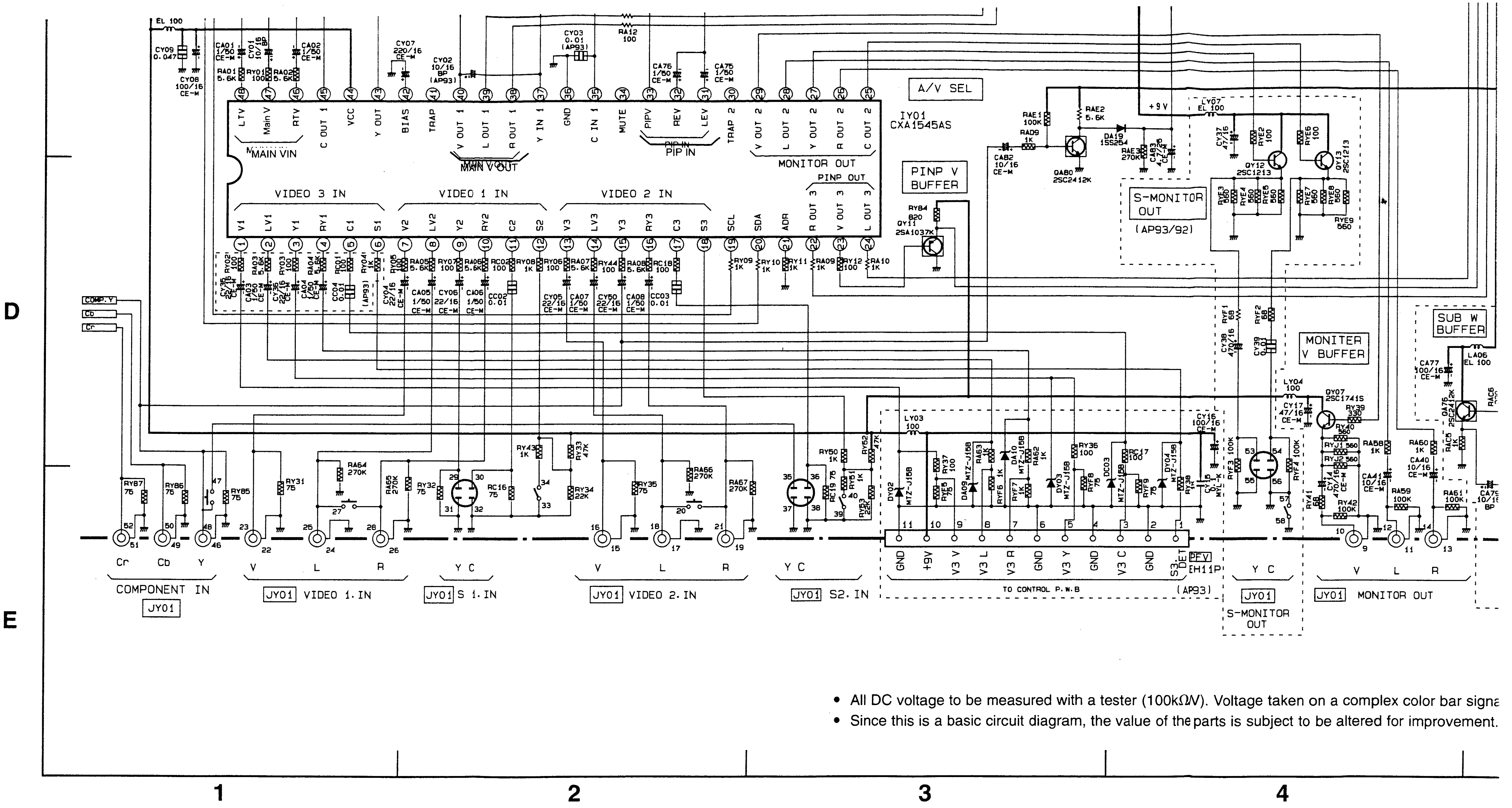
CONVERGENCE P.W.B.

3 4 5 6

BASIC CIRCUIT DIAGRAM

Circuit No.	Pin Name	Voltage DC
QY57	E	2.5
	B	3.1
	C	9.4
QY58	E	2.8
	B	3.4
	C	8.7
QY59	E	9.4
	B	8.7
	C	3.4
QY60	E	2.8
	B	3.4
	C	9.4
QY61	E	2.8
	B	3.4
	C	8.7
QY62	E	9.4
	B	8.7
	C	3.9
QY63	E	3.3
	B	3.9
	C	9.4
IA02	1	4.3
	2	4.3
	3	4.3
	4	4.3
	5	0
	6	0
	7	0
	8	0
	9	9.3
	10	0
	11	4.3
	12	4.3
	13	4.3
	14	0
	15	4.3
	16	9.3

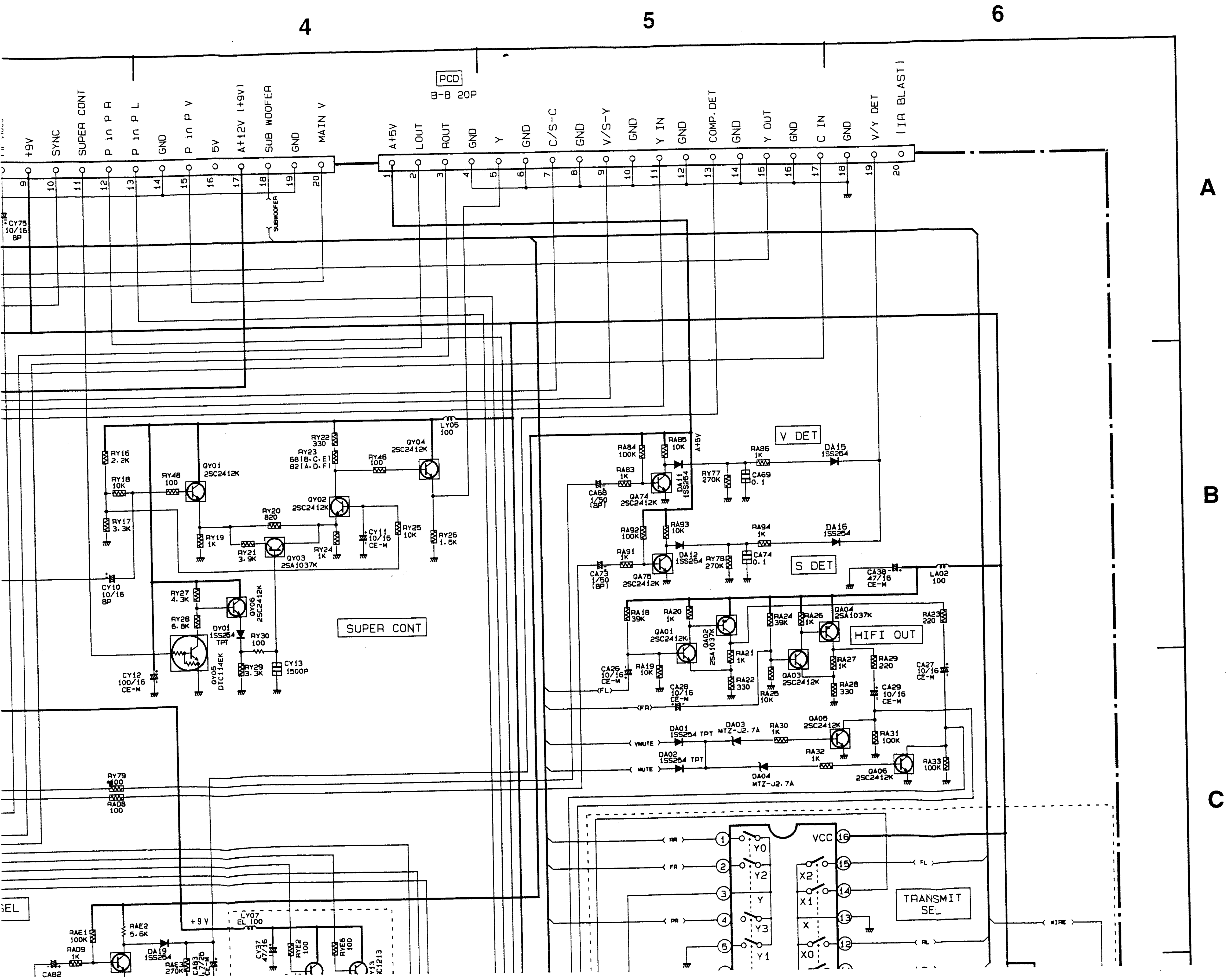

1
2
3
4
A
B
C
PCB
B-B 15P
Main Video
GND
MAIN AL
MAIN AR
GND
SCL3
SDA3
GND
PIP Audio
GND
MUTE
V-MUTE
WIRELESS
NC
HIFI-F-L
PCC
B-B 20P
HIFI-F-R
GND
HIFI-R-L
HIFI-R-R
GND
HIFI-P-L
HIFI-P-R
PIP Video
+9V
SYNC
SUPER CONT
P in P R
P in P L
GND
P in P V
5V
A+12V (+9V)
SUB WOOFER
GND
MAIN V
PCD
B-B 20P
A+5V
LOUT
ROUT
GND
9V
CY75 10/16 BP
IY02 UPC7893
OUT
IN
CY19 0.1
CY20 0.1
CY18 100/16 CE-M
Sync
RY57 820
Y BUFFER
QY54 2SC2412K
RY66 150
Yout
RY68 330
RY67 820
(AP93)
SYNC BUFFER
RY56 100
QY51 2SA1037K
RY16 2.2K
RY18 10K
RY17 3.3K
RY48 100
QY01 2SC2412K
RY19 1K
RY22 330
RY23 68(B·C·E) 82(A·D·F)
RY46 100
QY04 2SC2412K
LY05 100
QY02 2SC2412K
RY20 820
RY21 3.9K
QY03 2SA1037K
RY24 1K
CY11 10/16 CE-M
RY25 10K
RY26 1.8K
CY10 10/16 BP
RY27 4.3K
RY28 6.8K
QY06 2SC2412K
DY01 1SS254 TPT
RY30 100
QY05 DTC114EK
RY29 3.3K
CY13 1500P
CY12 100/16 CE-M
SUPER CONT
RY72 100 (AP92/91/90)
RC71 (AP93)
KA68 (AP92/91/90)
C BUFFER
Y/Y BUFFER
QY08 2SC2412K
QY10 2SC2412K
KA69 (AP93)
RY73 100
RC63 (AP92/91/90)
RY74 820
RY69 220
RY70 1K
RY79 100
RA08 100
RY71 100 (AP92/91/90)
RA11 100
RA12 100
LY01 EL 100
CY09 0.047
CY08 100/16 CE-M
CA01 1/50 CE-M
CY01 10/16 BP
CA02 1/50 CE-M
RA01 5.6K
RY01 100
RA02 5.6K
CY07 220/16 CE-M
CY02 10/16 BP (AP93)
CY03 0.01 (AP93)
CA76 1/50 CE-M
CA75 1/50 CE-M
A/V SEL
IY01 CXA1545AS
LTV
Main V
RTV
C OUT 1
VCC
Y OUT
BIAS
TRAP
V OUT 1
L OUT 1
R OUT 1
Y IN 1
GND
C IN 1
MUTE
PIPV
REV
LEV
TRAP 2
V OUT 2
L OUT 2
Y OUT 2
R OUT 2
C OUT 2
MAIN VIN
MAIN V OUT
PIP IN
MONITOR OUT
RAE1 100K
RAE2 5.6K
RAD9 1K
CA82 10/16
DA19 1SS254
RAE3 270K
+9V
LY07 EL 100
CY37 47/16
RYE2 100
RYE6 100
QY12
IY13 SC1213


A/V SEL
IY01
CXA1545AS
LTV
Main V
RTV
C OUT 1
VCC
Y OUT
BIAS
TRAP
V OUT 1
L OUT 1
R OUT 1
Y IN 1
GND
C IN 1
MUTE
PIPV
REV
LEV
TRAP 2
V OUT 2
L OUT 2
Y OUT 2
R OUT 2
C OUT 2
MAIN VIN
MAIN V OUT
PIP IN
MONITOR OUT
PINP OUT
VIDEO 3 IN
VIDEO 1 IN
VIDEO 2 IN
V1
LV1
Y1
RY1
C1
S1
V2
LV2
Y2
RY2
C2
S2
V3
LV3
Y3
RY3
C3
S3
SCL
SDA
ADR
R OUT 3
V OUT 3
L OUT 3
PINP V
BUFFER
QY11
2SA1037K
S-MONITOR
OUT
(AP93/92)
QA80
2SC2412K
QY12
2SC1213
QY13
2SC1213
DA19
1SS254
+9V
MONITER
V BUFFER
QY07
2SC1741S
SUB W
BUFFER
COMP.Y
Cb
Cr
EL 100
LY03
100
LY04
100
LY07
EL 100
LA06
EL 100
DY02
MTZ-J158
DA09
MTZ-J158
DA10
MTZ-J158
DY03
MTZ-J158
DC03
MTZ-J158
DY04
MTZ-J158
GND
+9V
V3 V
V3 L
V3 R
GND
V3 Y
GND
V3 C
GND
S3 DET
PFY
EH11P
(AP93)
TO CONTROL P.W.B
Cr
Cb
Y
COMPONENT IN
JY01
V
L
R
JY01 VIDEO 1.IN
Y C
JY01 S 1.IN
V
L
R
JY01 VIDEO 2.IN
Y C
JY01 S2. IN
Y C
JY01
S-MONITOR
OUT
V
L
R
JY01 MONITOR OUT
D
E
1
2
3
4

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signa
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

RAM

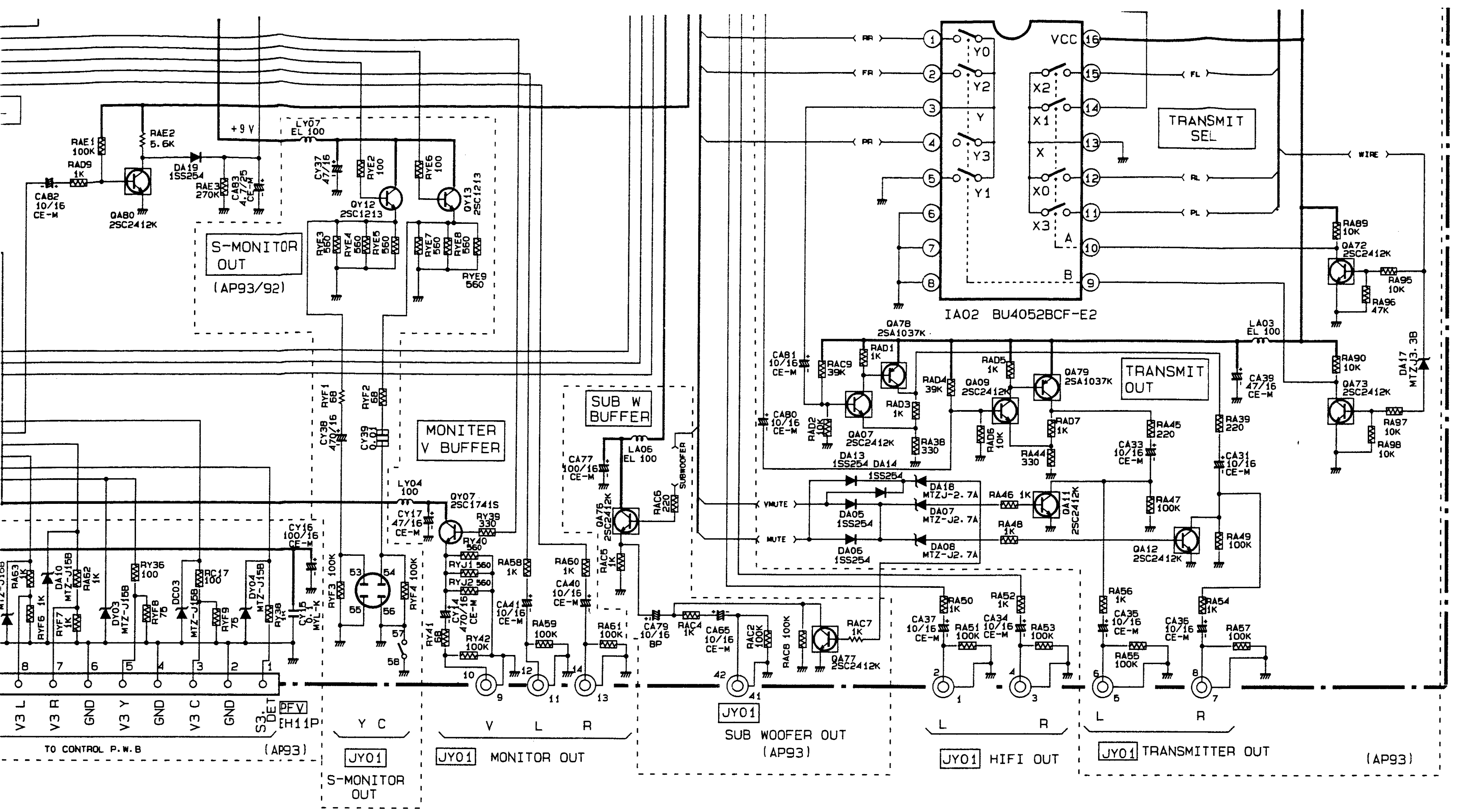
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


4
5
6
A
B
C
+9V
SYNC
SUPER CONT
P in P R
P in P L
GND
P in P V
5V
A+12V (+9V)
SUB WOOFER
GND
MAIN V
PCD
B-B 20P
A+5V
LOUT
ROUT
GND
Y
GND
C/S-C
GND
V/S-Y
GND
Y IN
GND
COMP. DET
GND
Y OUT
GND
C IN
GND
V/Y DET
(IR BLAST)
SUBWOOFER
CY75 10/16 BP
V DET
S DET
SUPER CONT
HIFI OUT
TRANSMIT SEL
QY01 2SC2412K
QY02 2SC2412K
QY03 2SA1037K
QY04 2SC2412K
QY05 DTC114EK
QY06 2SC2412K
DY01 1SS254 TPT
LY05 100
RY16 2.2K
RY18 10K
RY17 3.3K
RY48 100
RY19 1K
RY20 820
RY21 3.9K
RY22 330
RY23 681(B·C·E) 821(A·D·F)
RY24 1K
RY25 10K
RY26 1.5K
RY27 4.3K
RY28 6.8K
RY29 3.3K
RY30 100
RY46 100
CY10 10/16 BP
CY11 10/16 CE-M
CY12 100/16 CE-M
CY13 1500P
RY79 100
RA08 100
QA74 2SC2412K
QA75 2SC2412K
DA11 1SS254
DA12 1SS254
DA15 1SS254
DA16 1SS254
RA84 100K
RA85 10K
RA83 1K
RA86 1K
RA92 100K
RA93 10K
RA91 1K
RA94 1K
RY77 270K
RY78 270K
CA68 1/50 (BP)
CA69 0.1
CA73 1/50 (BP)
CA74 0.1
CA38 47/16 CE-M
LA02 100
QA01 2SC2412K
QA02 2SA1037K
QA03 2SC2412K
QA04 2SA1037K
QA05 2SC2412K
QA06 2SC2412K
RA18 39K
RA20 1K
RA19 10K
RA21 1K
RA22 330
RA24 39K
RA26 1K
RA25 10K
RA27 1K
RA28 330
RA29 220
RA23 220
RA30 1K
RA31 100K
RA32 1K
RA33 100K
CA26 10/16 CE-M
CA28 10/16 CE-M
CA29 10/16 CE-M
CA27 10/16 CE-M
DA01 1SS254 TPT
DA02 1SS254 TPT
DA03 MTZ-J2.7A
DA04 MTZ-J2.7A
(FL)
(FR)
(YMUTE)
(MUTE)
(RR)
(FR)
(RR)
(FL)
(RL)
(WIRE)
Y0
Y2
Y
Y3
Y1
VCC
X2
X1
X
X0
1
2
3
4
5
16
15
14
13
12
SEL
+9V
LY07 EL 100
RAE1 100K
RAE2 5.6K
RA09 1K
DA19 1SS254
RAE3 270K
CA82
CA83
CY37 47/16
RYE2 100
RYE6 100

Circuit No.	Pin No.	Voltage DC
IY01	1	4.7
	2	4.7
	3	4.7
	4	4.7
	5	4.7
	6	0.5
	7	4.7
	8	4.7
	9	4.7
	10	4.7
	11	4.7
	12	2.3
	13	4.7
	14	4.7
	15	4.7
	16	4.7
	17	4.7
	18	2.3
	19	4.9
	20	4.9
	21	4.7
	22	4.7
	23	4.6
	24	4.7
	25	4.7
	26	4.7
	27	4.7
	28	4.7
	29	4.7
	30	4.7
	31	4.7
	32	4.7
	33	4.7
	34	0
	35	4.7
	36	0
	37	4.7
	38	4.7
	39	4.7
	40	4.7
	41	4.7
	42	4.7
	43	4.6
	44	9.1
	45	4.6
	46	4.7
	47	4.7
	48	4.7
IY02	1	11.9
	2	0
	3	9.3

Circuit No.	Pin No.	Voltage DC
QA01	E	1.2
	B	1.8
	C	8.6
QA02	E	9.3
	B	8.6
	C	4.3
QA03	E	1.2
	B	1.8
	C	8.6
	E	9.3

Circuit No.	Pin Name	Voltage DC
QA72	E	0
	B	0
	C	0
QA73	E	0
	B	0
	C	9.4
QA74	E	0
	B	0
	C	2
QA75	E	0
	B	0
	C	2
QA76	E	3
	B	3.7
	C	9.4
QA77	E	0
	B	0
	C	0
QA78	E	8.7
	B	9.3
	C	4.4
QA79	E	8.7
	B	9.3
	C	4.4
QA80	E	0
	B	0.5
	C	0
QY01	E	4.5
	B	5.1
	C	9.2
QY02	E	4.5
	B	5.1
	C	7.5
QY03	E	4.4
	B	4.5
	C	4.6
QY04	E	6.8
	B	7.5
	C	9.3
QY05	E	0
	B	2.1
	C	0
QY06	E	5.1
	B	5.7
	C	9.3
QY07	E	3.9
	B	4.6
	C	9.1
QY08	E	3.9
	B	4.6
	C	9.2
QY10	E	3.9
	B	4.6
	C	9.2
QY11	E	5.3
	B	4.7
	C	0
QY12	E	4
	B	4.7
	C	9.3
QY13	E	4.1
	B	9.3
	C	4.8


+9V
RAE1 100K
RAE2 5.6K
RAD9 1K
CA82 10/16 CE-M
QA80 2SC2412K
DA19 1SS254
RAE3 270K
CA83 47/25 CE-M
LY07 EL 100
CY37 47/16
RYE2 100
RYE6 100
QY12 2SC1213
QY13 2SC1213
S-MONITOR OUT
(AP93/92)
RYE3 560
RYE4 560
RYE5 560
RYE7 560
RYE8 560
RYE9 560
RYF1 68
RYF2 68
CY38 470/16
CY39
MONITER V BUFFER
LY04 100
CY17 47/16 CE-M
QY07 2SC1741S
RY39 330
RY40 560
RYJ1 560
RYJ2 560
CY14 470/16 CE-M
RY42 100K
RY41
CY16 100/16 CE-M
RYF3 100K
RYF4 100K
53 54 55 56 57 58
RA58 1K
CA41 10/16 CE-M
RA59 100K
RA60 1K
CA40 10/16 CE-M
RA61 100K
SUB W BUFFER
CA77 100/16 CE-M
LA06 EL 100
QA76 2SC2412K
RAC5 1K
RAC6 220
SUBWOOFER
CA79 10/16 BP
RAC4 1K
CA65 10/16 CE-M
RAC2 100K
RAC8 100K
RAC7 1K
QA77 2SC2412K
RR
FR
PR
FL
RL
PL
WIRE
VMUTE
MUTE
IA02 BU4052BCF-E2
VCC
Y0 Y2 Y Y3 Y1
X2 X1 X X0 X3
A B
TRANSMIT SEL
QA78 2SA1037K
RAD1 1K
CA81 10/16 CE-M
RAC9 39K
CA80 10/16 CE-M
RAD2
RAD3 1K
RAD4 39K
RAD5 1K
RAD6 10K
RAD7 1K
QA07 2SC2412K
QA09 2SC2412K
QA79 2SA1037K
TRANSMIT OUT
DA13 1SS254
DA14 1SS254
RA38 330
RA44 330
DA16 MTZJ-2.7A
DA05 1SS254
DA07 MTZ-J2.7A
DA06 1SS254
DA08 MTZ-J2.7A
RA46 1K
RA48 1K
QA11 2SC2412K
RA45 220
CA33 10/16 CE-M
RA47 100K
RA39 220
CA31 10/16 CE-M
RA49 100K
QA12 2SC2412K
LA03 EL 100
CA39 47/16 CE-M
RA89 10K
QA72 2SC2412K
RA95 10K
RA96 47K
RA90 10K
QA73 2SC2412K
RA97 10K
RA98 10K
DA17 MTZJ3.3B
RA50 1K
RA52 1K
CA37 10/16 CE-M
RA51 100K
CA34 10/16 CE-M
RA53 100K
RA56 1K
CA35 10/16 CE-M
RA55 100K
CA36 10/16 CE-M
RA54 1K
RA57 100K
RA63
RA62 1K
RY36 100
RC17 100
RYF6 1K
RYF7 1K
DA10 MTZ-J15B
DY03 MTZ-J15B
DC03 MTZ-J15B
DY04 MTZ-J15B
RYF8 75
RYF9 75
RY38 75
CY15 0.1 MYL-K
8 7 6 5 4 3 2 1
V3 L
V3 R
GND
V3 Y
GND
V3 C
GND
S3 DET
PFV
EH11P
TO CONTROL P.W.B
(AP93)
Y C
JY01
S-MONITOR OUT
10 9 12 11 14 13
V L R
JY01 MONITOR OUT
42 41
JY01
SUB WOOFER OUT
(AP93)
2 1 4 3
L R
JY01 HIFI OUT
6 5 8 7
L R
JY01 TRANSMITTER OUT
(AP93)

Circuit No.	Pin No.	Voltage DC
QA01	E	1.2
	B	1.8
	C	8.6
QA02	E	9.3
	B	8.6
	C	4.3
QA03	E	1.2
	B	1.8
	C	8.6
QA04	E	9.3
	B	8.6
	C	4.2
QA05	E	0
	B	0
	C	0
QA06	E	0
	B	0
	C	0
QA07	E	0
	B	1.8
	C	8.7
QA09	E	1.2
	B	1.8
	C	8.7
QA11	E	0
	B	0
	C	0
QA12	E	0
	B	0
	C	0

QY10	E	3.9
	B	4.6
	C	9.2
QY11	E	5.3
	B	4.7
	C	0
QY12	E	4
	B	4.7
	C	9.3
QY13	E	4.1
	B	9.3
	C	4.8
QY51	E	3.8
	B	3.1
	C	0
QY54	E	3.1
	B	3.7
	C	9.3

D

E

be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
sic circuit diagram, the value of the parts is subject to be altered for improvement.

TERMINAL P.W.B.

4

5

6

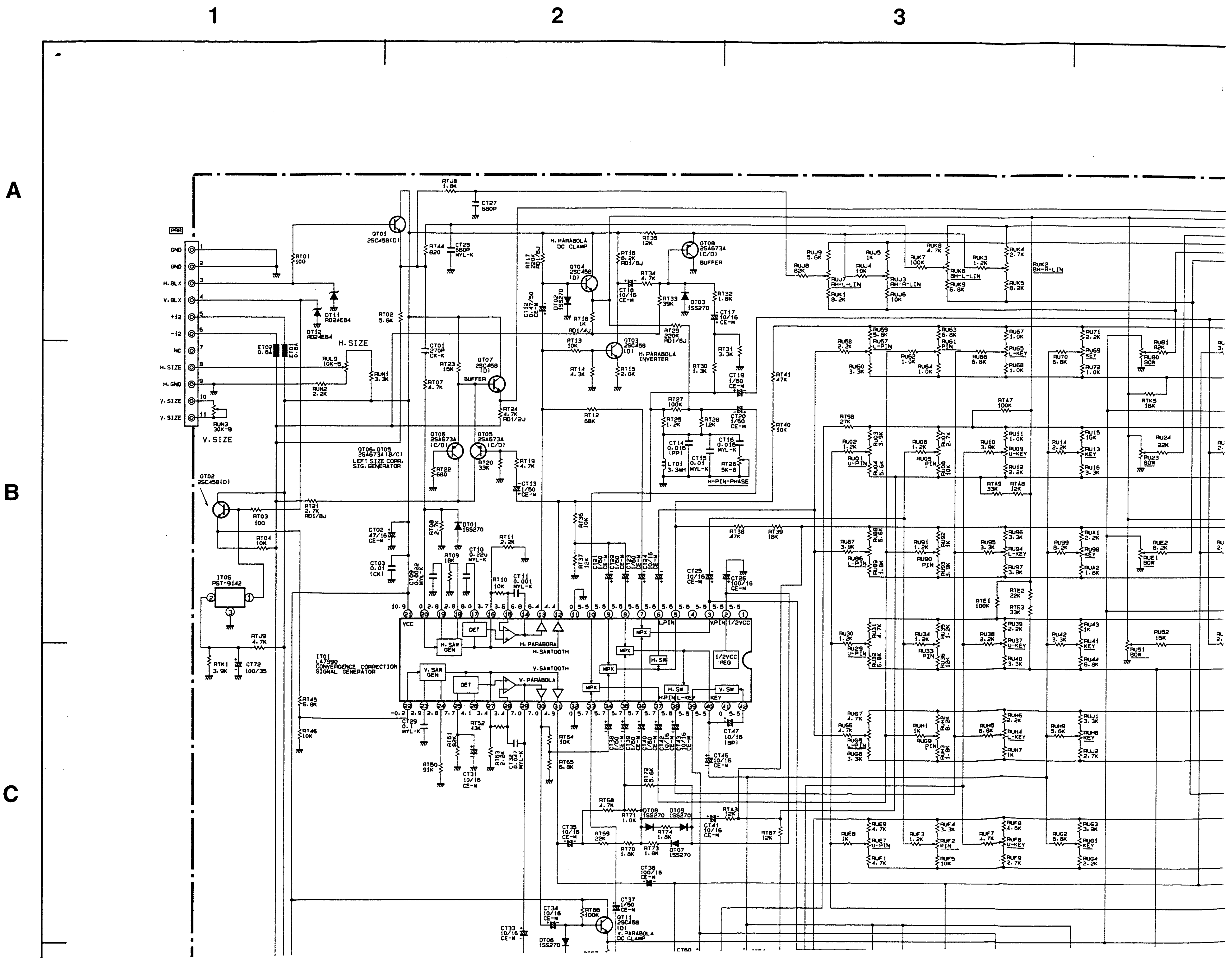
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC

Circuit No.	Pin Name	Voltage DC
IT01	1	5.5
	2	5.5
	3	5.5
	4	5.5
	5	5.5
	6	5.5
	7	5.5
	8	5.5
	9	5.5
	10	5.5
	11	0
	12	4.4
	13	6.4
	14	6.8
	15	3.6
	16	3.7
	17	8
	18	2.8
	19	2.8
	20	0
	21	10.9
	22	-0.2
	23	2.9
	24	2.8
	25	7.7
	26	4.1
	27	3.4
	28	3.4
	29	7
	30	7
	31	4.9
	32	0
	33	5.7
	34	5.7
	35	5.7
	36	5.7
	37	5.7
	38	5.5
	39	5.5
	40	5.5
	41	0
	42	5.5

Circuit No.	Pin Name	Voltage DC
IT02	1	-0.3
	2	0
	3	0
	4	-11.7
	5	0
	6	0
	7	-0.4
	8	10.9
IT03	1	-0.3
	2	0
	3	0
	4	-11.7
	5	0
	6	0
	7	-0.6
	8	10.9
IT04	1	0
	2	0
	3	0
	4	-11.7
	5	0
	6	0
	7	0
	8	10.9
IT05	1	-1.9
	2	0
	3	0
	4	-11.7
	5	0
	6	0
	7	-2.1
	8	10.9
IT06	1	0.4
	2	4.8
	3	0

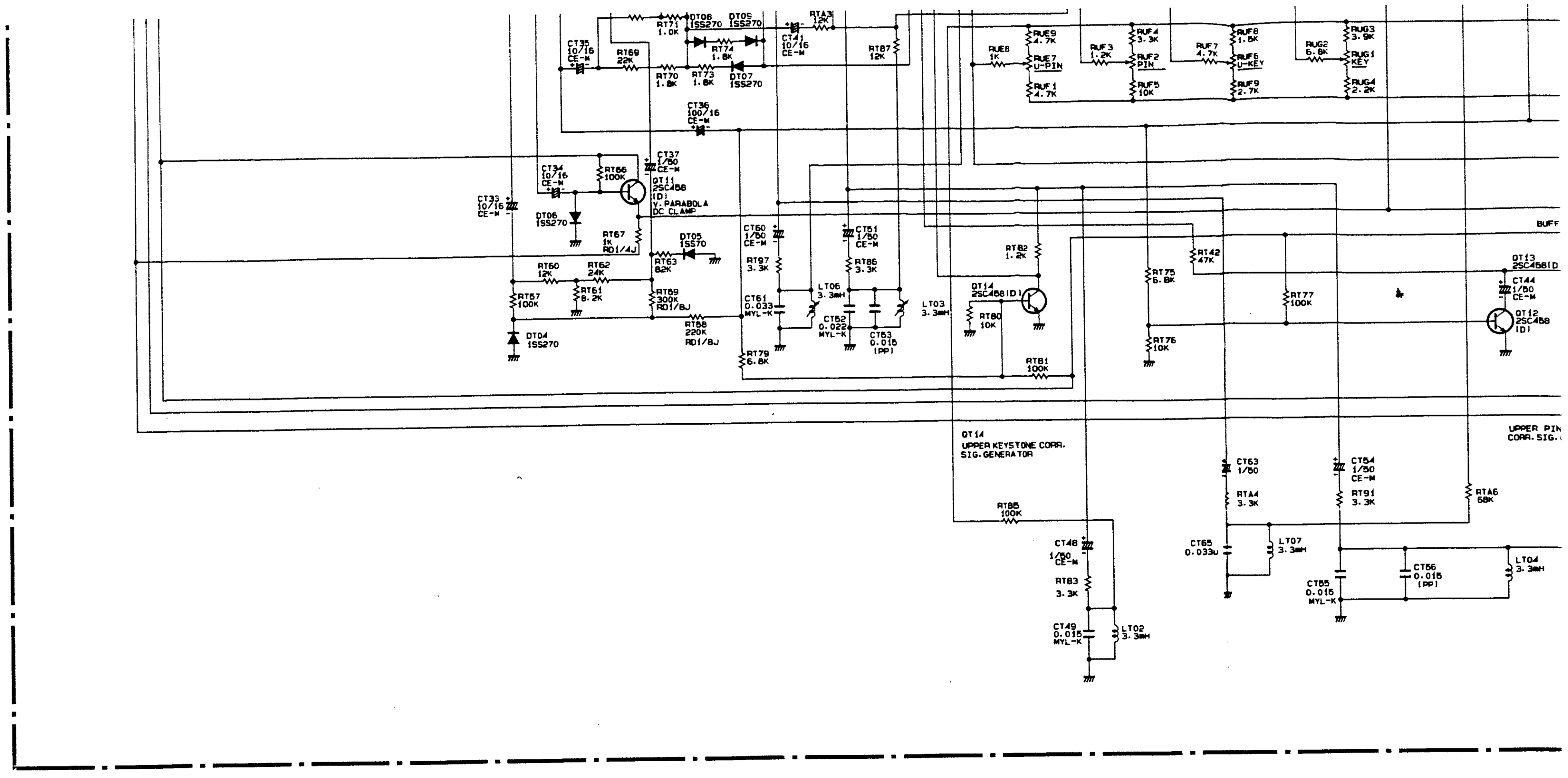
Circuit No.	Pin Name	Voltage DC
QT01	B	1.4
	C	10.9
	E	1
QT02	B	0.4
	C	10.9
	E	-0.2
QT03	B	1.9
	C	5.5
	E	1.3
QT04	B	-1.4
	C	10.9


1
2
3
A
B
C
H. SIZE
V. SIZE
IT01 LA7990 CONVERGENCE CORRECTION SIGNAL GENERATOR
IT06 PST-9142
QT01 2SC458(D)
QT02 2SC458(D)
QT05-QT06 2SA673A(B/C) LEFT SIZE CORR. SIG. GENERATOR
H. PARABOLA DC CLAMP
QT08 2SA673A (C/D) BUFFER
QT03 2SC458 (D) H. PARABOLA INVERTER
QT07 2SC458 (D) BUFFER
H-PIN-PHASE
QT11 2SC458 (D) V. PARABOLA DC CLAMP
H. PARABORA
H. SAWTOOTH
V. SAWTOOTH
V. PARABOLA
H. SAW GEN
V. SAW GEN
DET
MPX
H. SW
V. SW
1/2VCC REG
VCC
GND
H. BLX
V. BLX
+12
-12
NC
H. SIZE
H. GND
V. SIZE
RUK2 BH-R-LIN
RUJ7 BH-L-LIN
RUJ3 BH-R-LIN
RUK6 BH-L-LIN

41	0
42	5.5

QT02	B	0.4
	C	10.9
	E	-0.2
QT03	B	1.9
	C	5.5
	E	1.3
QT04	B	-1.4
	C	10.9
	E	-2.1
QT05	B	0.2
	C	-8.2
	E	0.2
QT06	B	0
	C	-8.2
	E	0.2
QT07	B	0.2
	C	10.9
	E	-0.5
QT08	B	-0.4
	C	0
	E	0.2
QT11	B	-1.3
	C	10.9
	E	-2
QT12	B	0.2
	C	0
	E	0
QT13	B	2.5
	C	10.9
	E	1.8
QT14	B	0.2
	C	0
	E	0

D

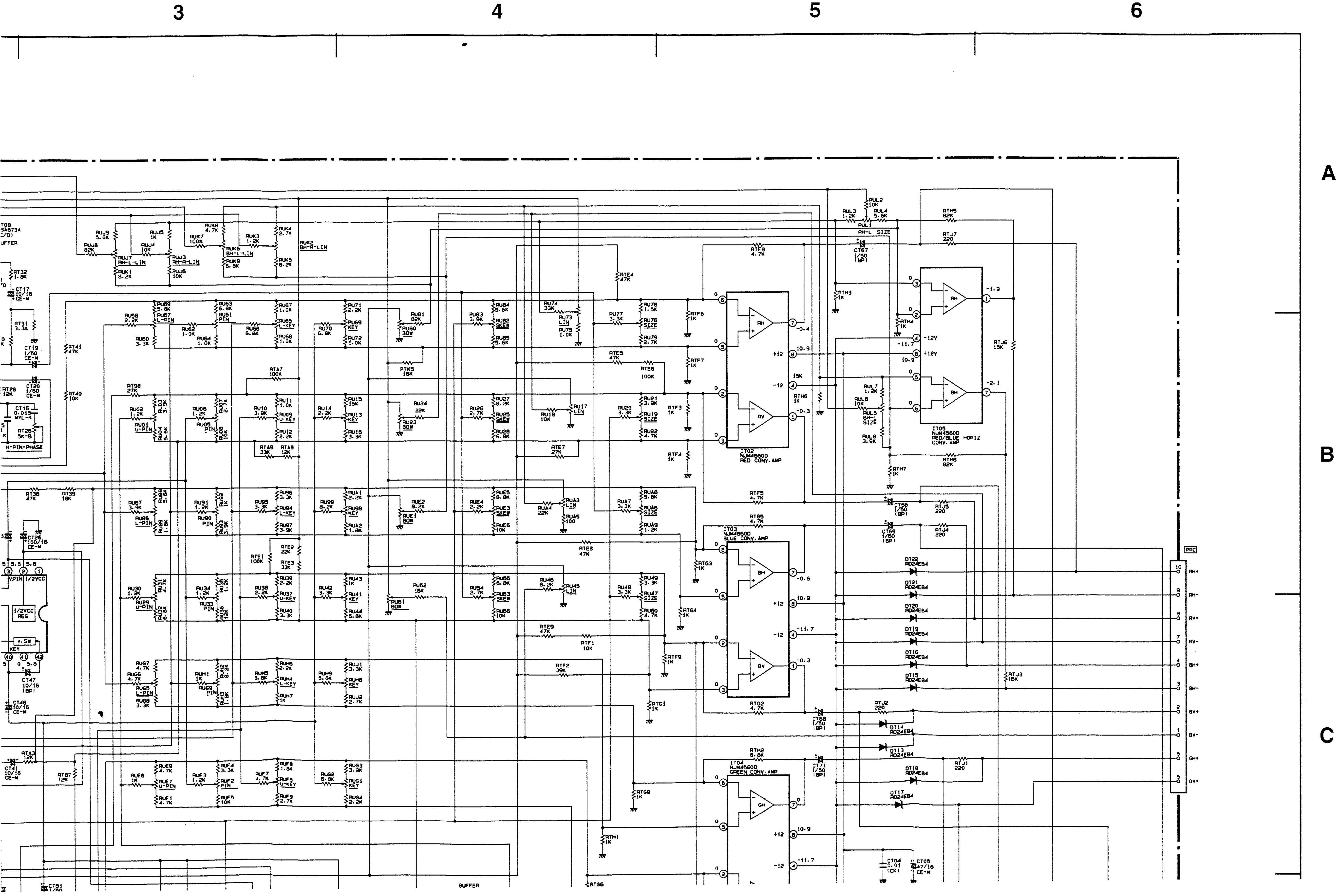

RT71
1.0K
DT08
1SS270
DT05
1SS270
RTA3
12K
CT35
10/16
CE-M
RT69
22K
RT74
1.8K
CT41
10/16
CE-M
RT87
12K
RT70
1.8K
RT73
1.8K
DT07
1SS270
CT36
100/16
CE-M
CT37
1/50
CE-M
CT34
10/16
CE-M
RT66
100K
QT11
2SC458
(D)
V.PARABOLA
DC CLAMP
CT33
10/16
CE-M
DT06
1SS270
RT67
1K
RD1/4J
DT05
1SS70
RT63
82K
RT60
12K
RT62
24K
RT57
100K
RT61
8.2K
RT59
300K
RD1/8J
RT58
220K
RD1/8J
DT04
1SS270
CT60
1/50
CE-M
RT97
3.3K
CT61
0.033
MYL-K
RT79
6.8K
CT51
1/50
CE-M
RT86
3.3K
LT06
3.3mH
CT52
0.022
MYL-K
CT53
0.015
(PP)
LT03
3.3mH
RT82
1.2K
QT14
2SC458(D)
RT80
10K
RT81
100K
RUE8
1K
RUE9
4.7K
RUE7
U-PIN
RUF1
4.7K
RUF3
1.2K
RUF4
3.3K
RUF2
PIN
RUF5
10K
RUF7
4.7K
RUF8
1.5K
RUF6
U-KEY
RUF9
2.7K
RUG2
6.8K
RUG3
3.9K
RUG1
KEY
RUG4
2.2K
BUFF
RT75
6.8K
RT76
10K
RT42
47K
RT77
100K
QT13
2SC458(D
CT44
1/50
CE-M
QT12
2SC458
(D)
QT14
UPPER KEYSTONE CORR.
SIG.GENERATOR
UPPER PIN
CORR.SIG.
RT85
100K
CT48
1/50
CE-M
RT83
3.3K
CT49
0.015
MYL-K
LT02
3.3mH
CT63
1/50
RTA4
3.3K
CT65
0.033u
LT07
3.3mH
CT54
1/50
CE-M
RT91
3.3K
CT55
0.015
MYL-K
CT56
0.015
(PP)
RTA6
68K
LT04
3.3mH

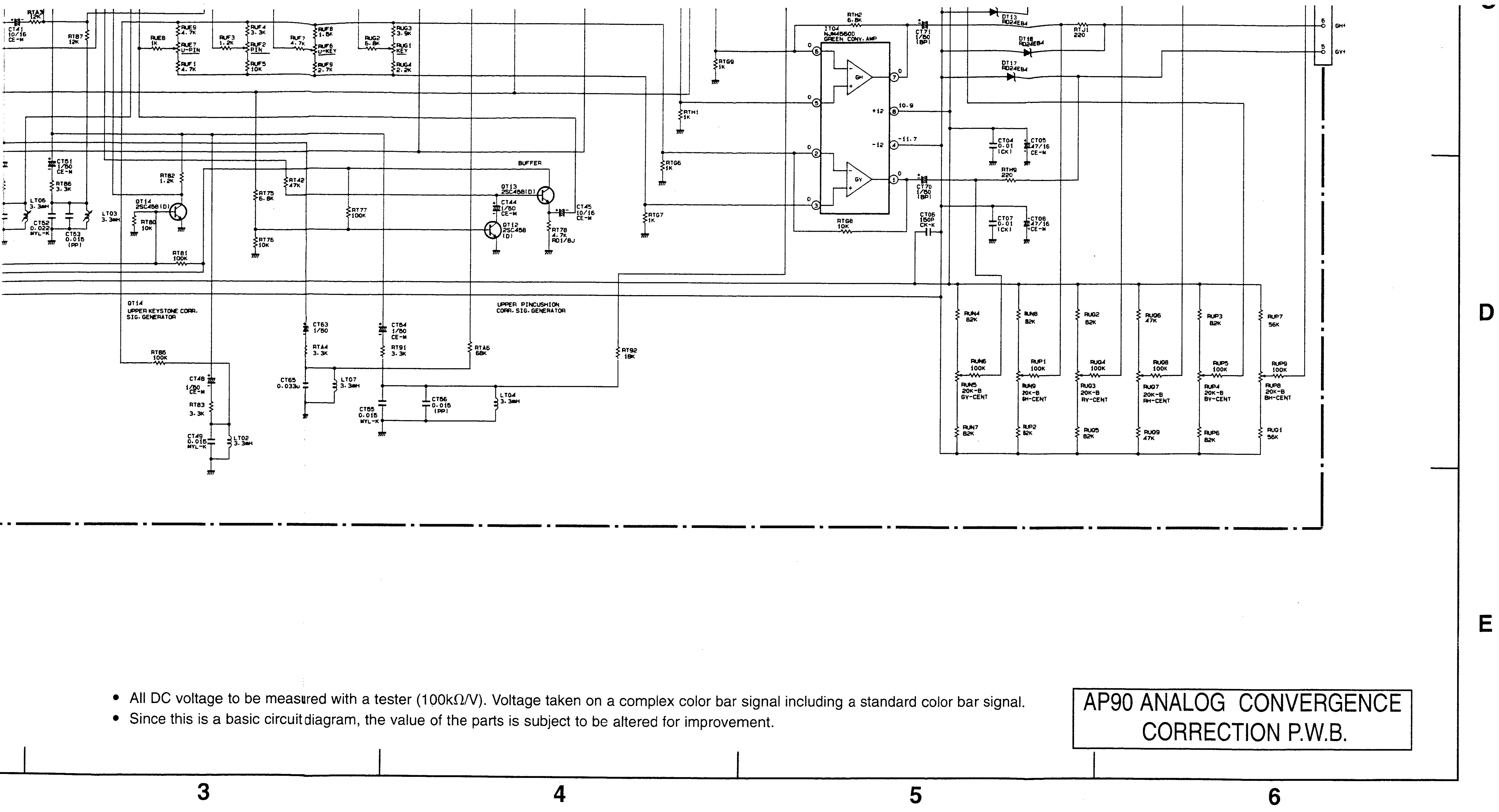
E

- All DC voltage to be measured with a tester (100kΩ/V). Volta
- Since this is a basic circuit diagram, the value of the parts is

1 2 3

BASIC CIRCUIT DIAGRAM

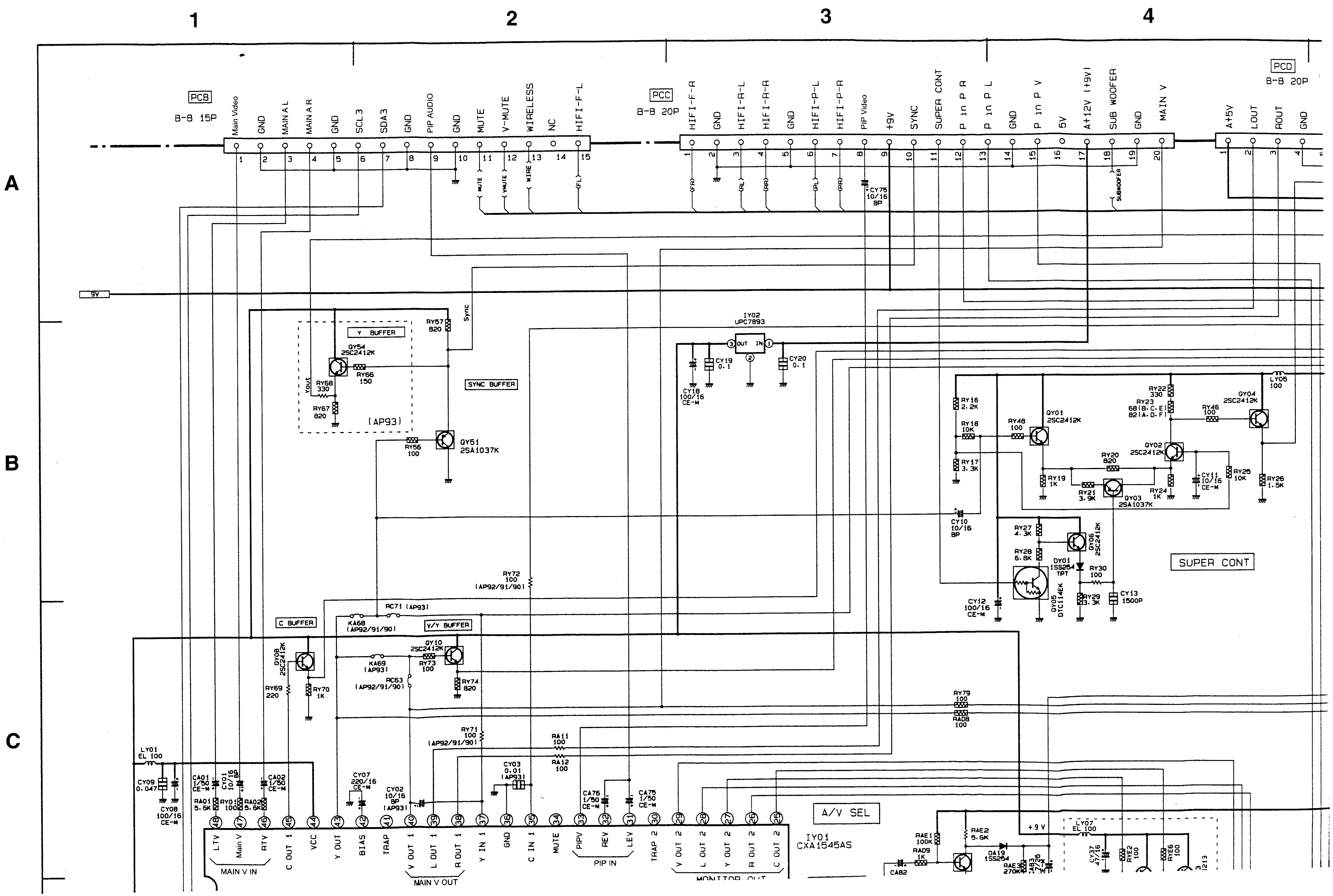

3
4
5
6
A
B
C
IT02
NJM4560D
RED CONV. AMP
IT03
NJM4560D
BLUE CONV. AMP
IT04
NJM4560D
GREEN CONV. AMP
IT05
NJM4560D
RED/BLUE HORIZ
CONV. AMP
RH
RV
BH
BV
GH
1/2VCC
REG
Y-SW
KEY
H-PIN-PHASE
BUFFER
RTG6
PRC
RH+
RH-
RV+
RV-
BH+
BH-
BV+
BV-
GH+
GV+
DT22 RD24EB4
DT21 RD24EB4
DT20 RD24EB4
DT19 RD24EB4
DT16 RD24EB4
DT15 RD24EB4
DT14 RD24EB4
DT13 RD24EB4
DT18 RD24EB4
DT17 RD24EB4
RH-L-LIN
RH-R-LIN
BH-L-LIN
BH-R-LIN
RH-L SIZE
BH-L SIZE
-1.9
-2.1
-0.4
10.9
-0.6
-0.3
-11.7
+12
-12
+12V
-12V
CT04 0.01 (CK)
CT05 47/16 CE-M

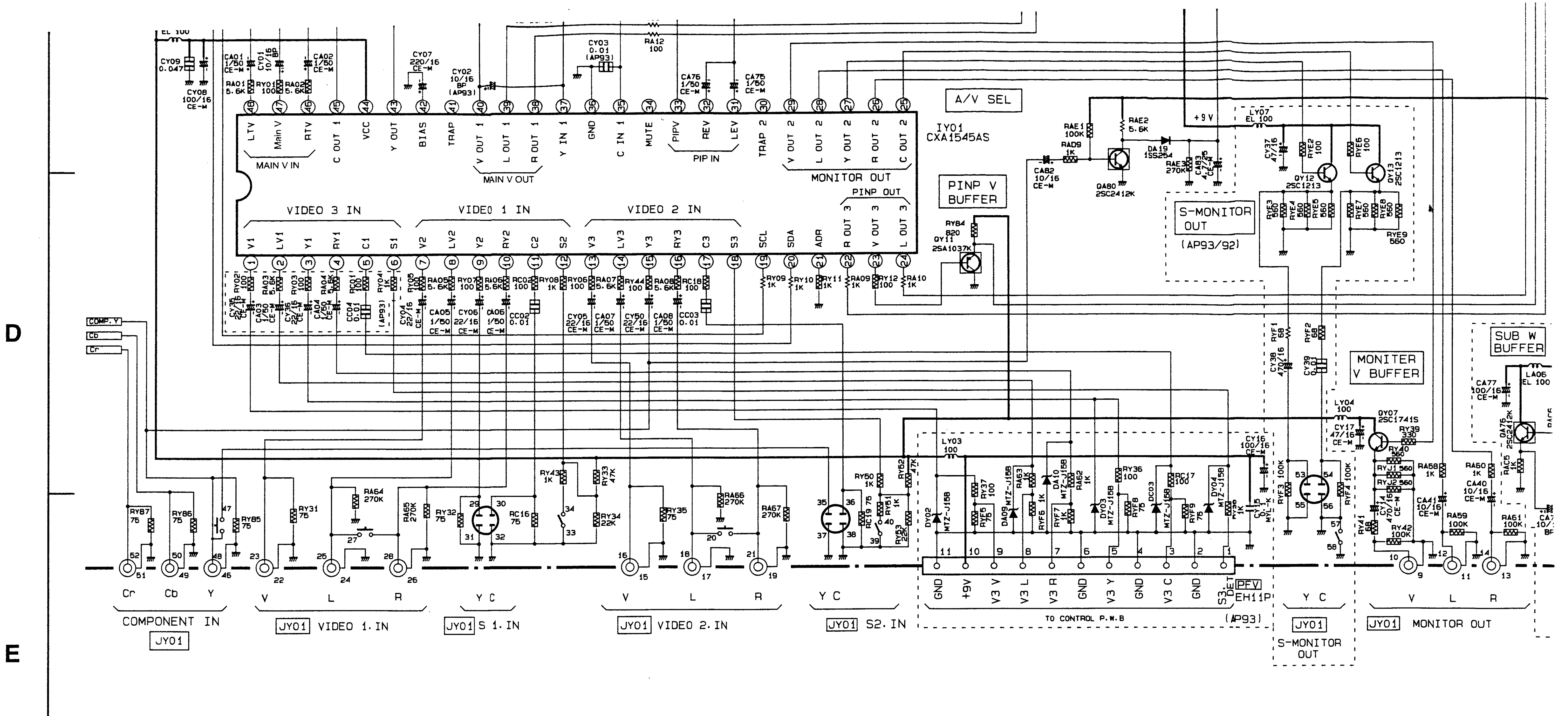

RTA3
12K
CT41
10/16
CE-M
RT87
12K
RUE8
1K
RUE9
4.7K
RUE7
U-PIN
RUF1
4.7K
RUF3
1.2K
RUF4
3.3K
RUF2
PIN
RUF5
10K
RUF7
4.7K
RUF8
1.8K
RUF6
U-KEY
RUF9
2.7K
RUG2
6.8K
RUG3
3.9K
RUG1
KEY
RUG4
2.2K
CT51
1/50
CE-M
RT86
3.3K
LT06
3.3mH
CT52
0.022
MYL-K
CT53
0.018
(PP)
LT03
3.3mH
RT82
1.2K
QT14
2SC458(D)
RT80
10K
RT81
100K
RT42
47K
RT75
6.8K
RT76
10K
RT77
100K
BUFFER
QT13
2SC458(D)
CT44
1/50
CE-M
QT12
2SC458
(D)
CT45
10/16
CE-M
RT78
4.7K
RD1/8J
RTG9
1K
RTH1
1K
RTG6
1K
RTG7
1K
QT14
UPPER KEYSTONE CORR.
SIG. GENERATOR
UPPER PINCUSHION
CORR. SIG. GENERATOR
RT85
100K
CT48
1/50
CE-M
RT83
3.3K
CT49
0.018
MYL-K
LT02
3.3mH
CT63
1/50
RTA4
3.3K
CT65
0.033u
LT07
3.3mH
CT64
1/50
CE-M
RT91
3.3K
CT55
0.018
MYL-K
CT56
0.018
(PP)
LT04
3.3mH
RTA6
68K
RT92
18K
RTH2
6.8K
IT04
NJM4560D
GREEN CONV. AMP
GH
GV
0
+12
-12
10.9
-11.7
RTG8
10K
CT71
1/50
(BP)
CT70
1/50
(BP)
CT06
150P
CK-K
DT13
RD24EB4
DT16
RD24EB4
DT17
RD24EB4
RTJ1
220
CT04
0.01
(CK)
CT05
47/16
CE-M
RTH9
220
CT07
0.01
(CK)
CT08
47/16
CE-M
6
GH+
5
GV+
RUN4
82K
RUN6
100K
RUN5
20K-B
GV-CENT
RUN7
82K
RUN8
82K
RUP1
100K
RUN9
20K-B
GH-CENT
RUP2
82K
RUQ2
82K
RUQ4
100K
RUQ3
20K-B
RV-CENT
RUQ5
82K
RUQ6
47K
RUQ8
100K
RUQ7
20K-B
RH-CENT
RUQ9
47K
RUP3
82K
RUP5
100K
RUP4
20K-B
BV-CENT
RUP6
82K
RUP7
56K
RUP9
100K
RUP8
20K-B
BH-CENT
RUQ1
56K
D
E
3
4
5
6

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP90 ANALOG CONVERGENCE
CORRECTION P.W.B.

BASIC CIRCUIT DIAGRAM


1
2
3
4
A
B
C
PCB
B-B 15P
Main Video
GND
MAIN A L
MAIN A R
GND
SCL3
SDA3
GND
PIP AUDIO
GND
MUTE
V-MUTE
WIRELESS
NC
HIFI-F-L
PCC
B-B 20P
HIFI-F-R
GND
HIFI-R-L
HIFI-R-R
GND
HIFI-P-L
HIFI-P-R
PIP Video
+9V
SYNC
SUPER CONT
P in P R
P in P L
GND
P in P V
5V
A+12V (+9V)
SUB WOOFER
GND
MAIN V
PCD
B-B 20P
A+5V
LOUT
ROUT
GND
CY75 10/16 BP
9V
Sync
RY57 820
Y BUFFER
QY54 2SC2412K
RY66 150
Yout
RY68 330
RY67 820
(AP93)
SYNC BUFFER
QY51 2SA1037K
RY56 100
IY02 UPC7893
OUT IN
CY19 0.1
CY20 0.1
CY18 100/16 CE-M
RY16 2.2K
RY18 10K
RY17 3.3K
RY48 100
QY01 2SC2412K
RY22 330
RY23 68(B.C.E) 82(A.D.F)
RY46 100
QY04 2SC2412K
LY05 100
QY02 2SC2412K
RY20 820
RY19 1K
RY21 3.9K
QY03 2SA1037K
RY24 1K
CY11 10/16 CE-M
RY25 10K
RY26 1.5K
CY10 10/16 BP
RY27 4.3K
RY28 6.8K
QY06 2SC2412K
DY01 1SS254 TPT
RY30 100
QY05 DTC114EK
RY29 3.3K
CY13 1500P
CY12 100/16 CE-M
SUPER CONT
RY72 100 (AP92/91/90)
RC71 (AP93)
KA68 (AP92/91/90)
C BUFFER
V/Y BUFFER
QY08 2SC2412K
QY10 2SC2412K
KA69 (AP93)
RY73 100
RC63 (AP92/91/90)
RY74 820
RY69 220
RY70 1K
RY79 100
RA08 100
RY71 100 (AP92/91/90)
RA11 100
RA12 100
LY01 EL 100
CY09 0.047
CY08 100/16 CE-M
CA01 1/50 CE-M
CY01 10/16 BP
CA02 1/50 CE-M
RA01 5.6K
RY01 100
RA02 5.6K
CY07 220/16 CE-M
CY02 10/16 BP (AP93)
CY03 0.01 (AP93)
CA76 1/50 CE-M
CA75 1/50 CE-M
A/V SEL
IY01 CXA1545AS
LTV
Main V
RTV
C OUT 1
VCC
Y OUT
BIAS
TRAP
V OUT 1
L OUT 1
R OUT 1
Y IN 1
GND
C IN 1
MUTE
PIPV
REV
LEV
TRAP 2
V OUT 2
L OUT 2
Y OUT 2
R OUT 2
C OUT 2
MAIN V IN
MAIN V OUT
PIP IN
MONITOR OUT
RAE1 100K
RAE2 5.6K
RA09 1K
DA19 1SS254
RAE3 270K
CA82
+9V
LY07 EL 100
CY37 47/16
RYE2 100
RYE6 100

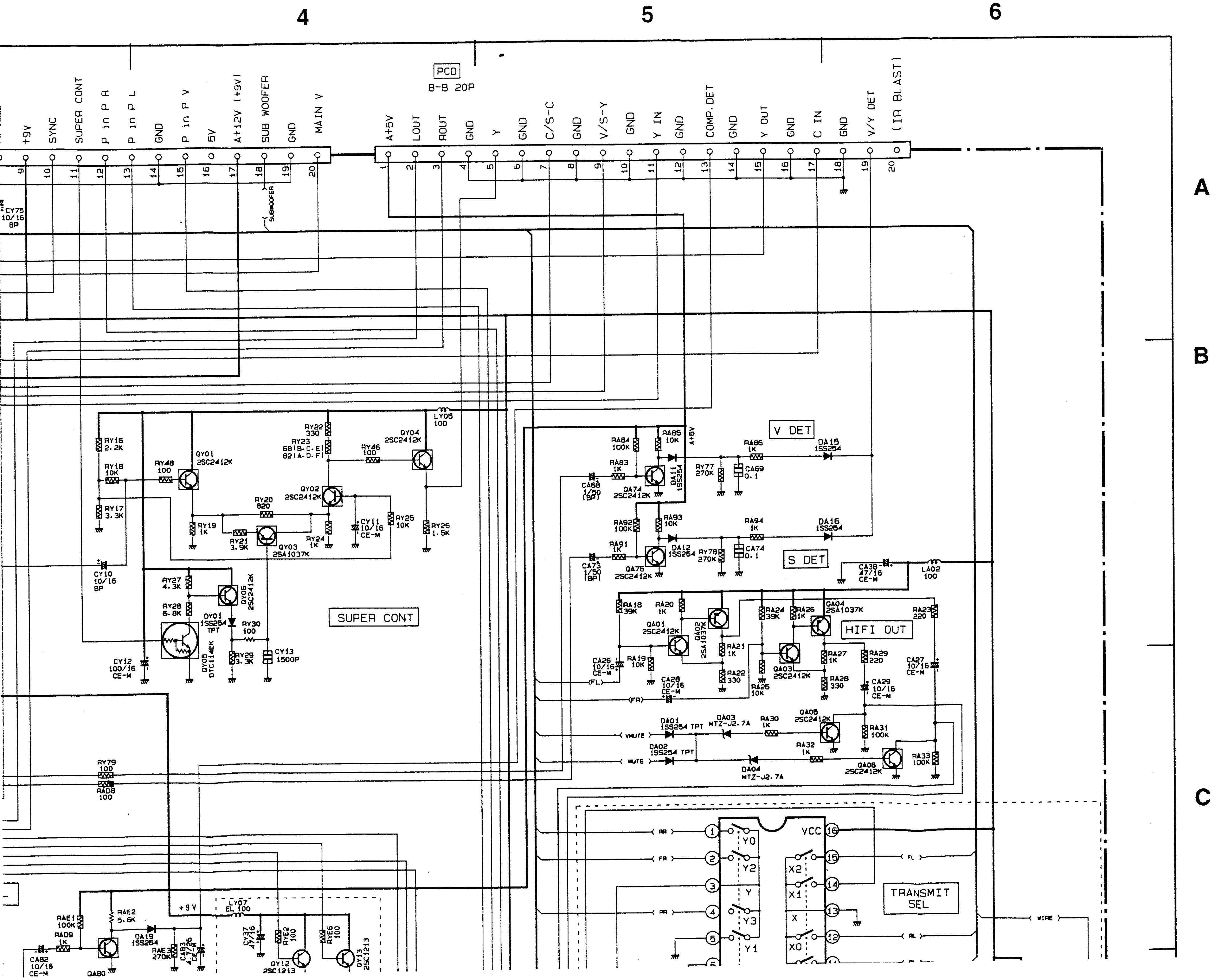

D
E
A/V SEL
IY01
CXA1545AS
MAIN V IN
MAIN V OUT
PIP IN
MONITOR OUT
PINP OUT
VIDEO 3 IN
VIDEO 1 IN
VIDEO 2 IN
PINP V BUFFER
S-MONITOR OUT
(AP93/92)
MONITER V BUFFER
SUB W BUFFER
COMP. Y
Cb
Cr
COMPONENT IN
JY01
VIDEO 1. IN
S 1. IN
VIDEO 2. IN
S2. IN
TO CONTROL P.W.B
PFV
EH11P
(AP93)
MONITOR OUT
QY11 2SA1037K
QA80 2SC2412K
QY12 2SC1213
QY13 2SC1213
QY07 2SC1741S
QA76 2SC2412K
+9V

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar sign
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement

1
2
3
4

GRAM

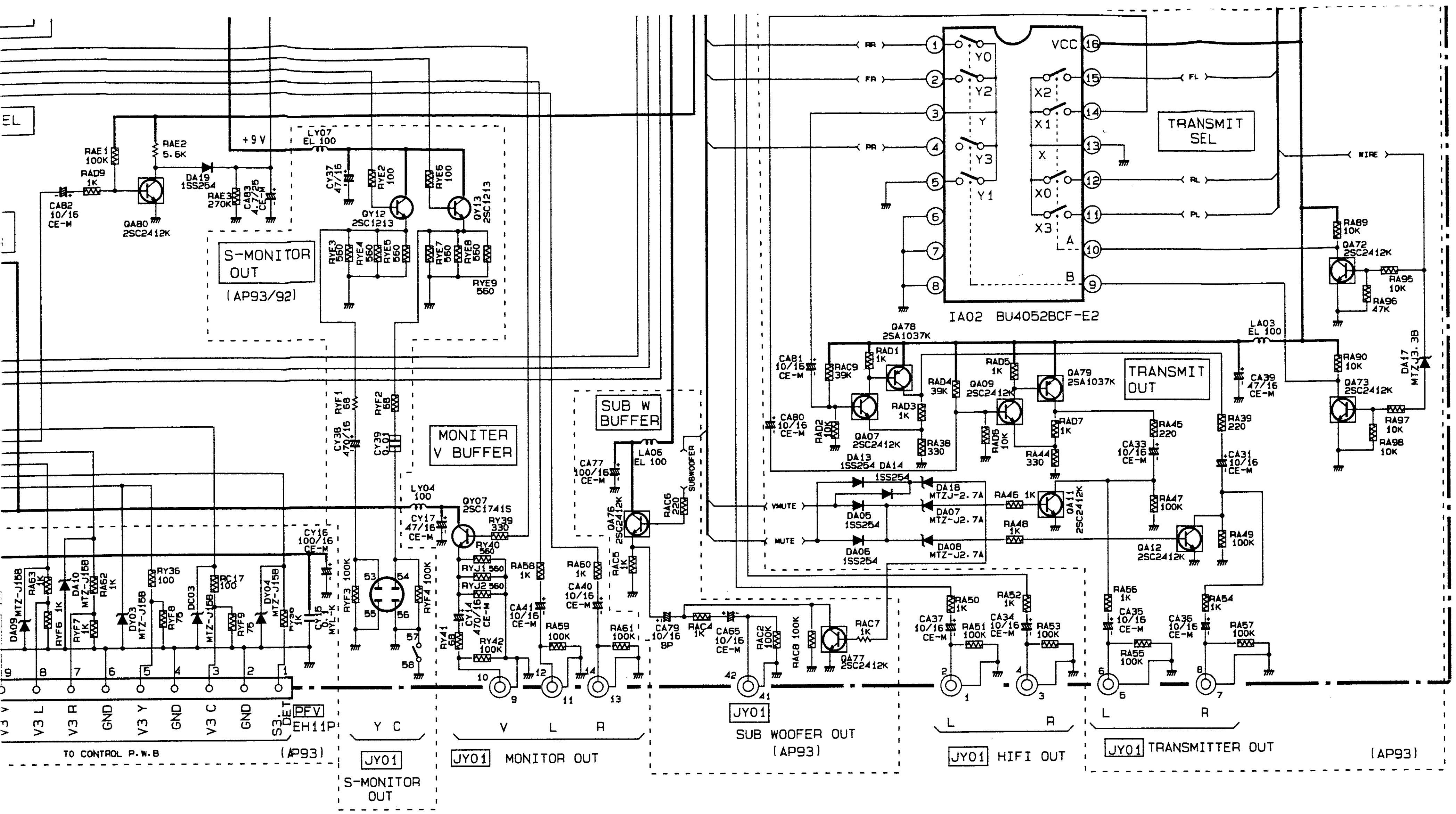
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


4
5
6
A
B
C
PCD
B-B 20P
+9V
SYNC
SUPER CONT
P in P R
P in P L
GND
P in P V
5V
A+12V (+9V)
SUB WOOFER
GND
MAIN V
A+5V
LOUT
ROUT
GND
Y
GND
C/S-C
GND
V/S-Y
GND
Y IN
GND
COMP. DET
GND
Y OUT
GND
C IN
GND
V/Y DET
(IR BLAST)
SUBWOOFER
CY75 10/16 BP
LY05 100
RY16 2.2K
RY18 10K
RY17 3.3K
RY48 100
QY01 2SC2412K
RY22 330
RY23 68(B.C.E) 82(A.D.F)
RY46 100
QY04 2SC2412K
QY02 2SC2412K
RY20 820
RY19 1K
RY21 3.9K
QY03 2SA1037K
RY24 1K
CY11 10/16 CE-M
RY25 10K
RY26 1.5K
CY10 10/16 BP
RY27 4.3K
RY28 6.8K
QY06 2SC2412K
DY01 1SS254 TPT
RY30 100
RY29 3.3K
CY13 1500P
QY05 DTC114EK
CY12 100/16 CE-M
SUPER CONT
RA84 100K
RA85 10K
A+5V
RA83 1K
CA68 1/50 (BP)
QA74 2SC2412K
DA11 1SS254
RY77 270K
CA69 0.1
V DET
RA86 1K
DA15 1SS254
RA92 100K
RA93 10K
RA91 1K
CA73 1/50 (BP)
QA75 2SC2412K
DA12 1SS254
RY78 270K
CA74 0.1
S DET
RA94 1K
DA16 1SS254
CA38 47/16 CE-M
LA02 100
RA18 39K
RA20 1K
QA01 2SC2412K
QA02 2SA1037K
RA24 39K
RA26 1K
QA04 2SA1037K
HIFI OUT
RA23 220
RA21 1K
QA03 2SC2412K
RA27 1K
RA29 220
CA27 10/16 CE-M
CA26 10/16 CE-M
RA19 10K
CA28 10/16 CE-M
RA22 330
RA25 10K
RA28 330
CA29 10/16 CE-M
(FL)
(FR)
YMUTE
DA01 1SS254 TPT
DA03 MTZ-J2.7A
RA30 1K
QA05 2SC2412K
RA31 100K
MUTE
DA02 1SS254 TPT
RA32 1K
DA04 MTZ-J2.7A
QA06 2SC2412K
RA33 100K
RY79 100
RAD8 100
RR
FR
FL
RR
RL
WIRE
Y0
Y2
Y
Y3
Y1
VCC
X2
X1
X
X0
TRANSMIT SEL
RAE1 100K
RAE2 5.6K
RAD9 1K
DA19 1SS254
RAE3 270K
CA83
+9V
LY07 EL 100
CY37 47/16
RYE2 100
RYE6 100
QY12 2SC1213
QY13 2SC1213
CA82 10/16 CE-M
QA80

Circuit No.	Pin No.	Voltage DC
IY01	1	4.7
	2	4.7
	3	4.7
	4	4.7
	5	4.7
	6	0.5
	7	4.7
	8	4.7
	9	4.7
	10	4.7
	11	4.7
	12	2.3
	13	4.7
	14	4.7
	15	4.7
	16	4.7
	17	4.7
	18	2.3
	19	4.9
	20	4.9
	21	4.7
	22	4.7
	23	4.6
	24	4.7
	25	4.7
	26	4.7
	27	4.7
	28	4.7
	29	4.7
	30	4.7
	31	4.7
	32	4.7
	33	4.7
	34	0
	35	4.7
	36	0
	37	4.7
	38	4.7
	39	4.7
	40	4.7
	41	4.7
	42	4.7
	43	4.6
	44	9.1
	45	4.6
	46	4.7
	47	4.7
	48	4.7

Circuit No.	Pin Name	Voltage DC
QA80	E	0
	B	0.5
	C	0
QY01	E	4.5
	B	5.1
	C	9.2
QY02	E	4.5
	B	5.1
	C	7.5
QY03	E	4.5
	B	4.5
	C	4.5
QY04	E	6.8
	B	7.5
	C	9.3
QY05	E	0
	B	2.1
	C	0
QY06	E	5.1
	B	5.7
	C	9.3
QY07	E	3.9
	B	4.6
	C	9.1
QY08	E	3.9
	B	4.6
	C	9.2
QY10	E	3.9
	B	4.6
	C	9.2
QY11	E	5.3
	B	4.7
	C	0
QY51	E	3.2
	B	2.6
	C	0
QY54	E	2.6
	B	3.2
	C	9.2

Circuit No.	Pin Name	Voltage DC
QY57	E	2.5
	B	3.1
	C	9.4
QY58	E	2.8
	B	3.4
	C	8.7


S-MONITOR OUT (AP93/92)
MONITER V BUFFER
SUB W BUFFER
TRANSMIT SEL
TRANSMIT OUT
IA02 BU4052BCF-E2
VCC
QA80 2SC2412K
QY12 2SC1213
QY13 2SC1213
QY07 2SC1741S
QA76 2SC2412K
QA77 2SC2412K
QA78 2SA1037K
QA79 2SA1037K
QA07 2SC2412K
QA09 2SC2412K
QA11 2SC2412K
QA12 2SC2412K
QA72 2SC2412K
QA73 2SC2412K
V MUTE
MUTE
RR
FR
PR
FL
RL
PL
WIRE
SUBWOOFER
TO CONTROL P.W.B
PFV EH11P (AP93)
JY01 S-MONITOR OUT
Y C
JY01 MONITOR OUT
V L R
JY01 SUB WOOFER OUT (AP93)
JY01 HIFI OUT
L R
JY01 TRANSMITTER OUT (AP93)
V3 L
V3 R
GND
V3 Y
GND
V3 C
GND
S3 DET
4
5
6
D
E

o be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
asic circuit diagram, the value of the parts is subject to be altered for improvement.

TERMINAL P.W.B.

	40	4.7
	41	4.7
	42	4.7
	43	4.6
	44	9.1
	45	4.6
	46	4.7
	47	4.7
	48	4.7

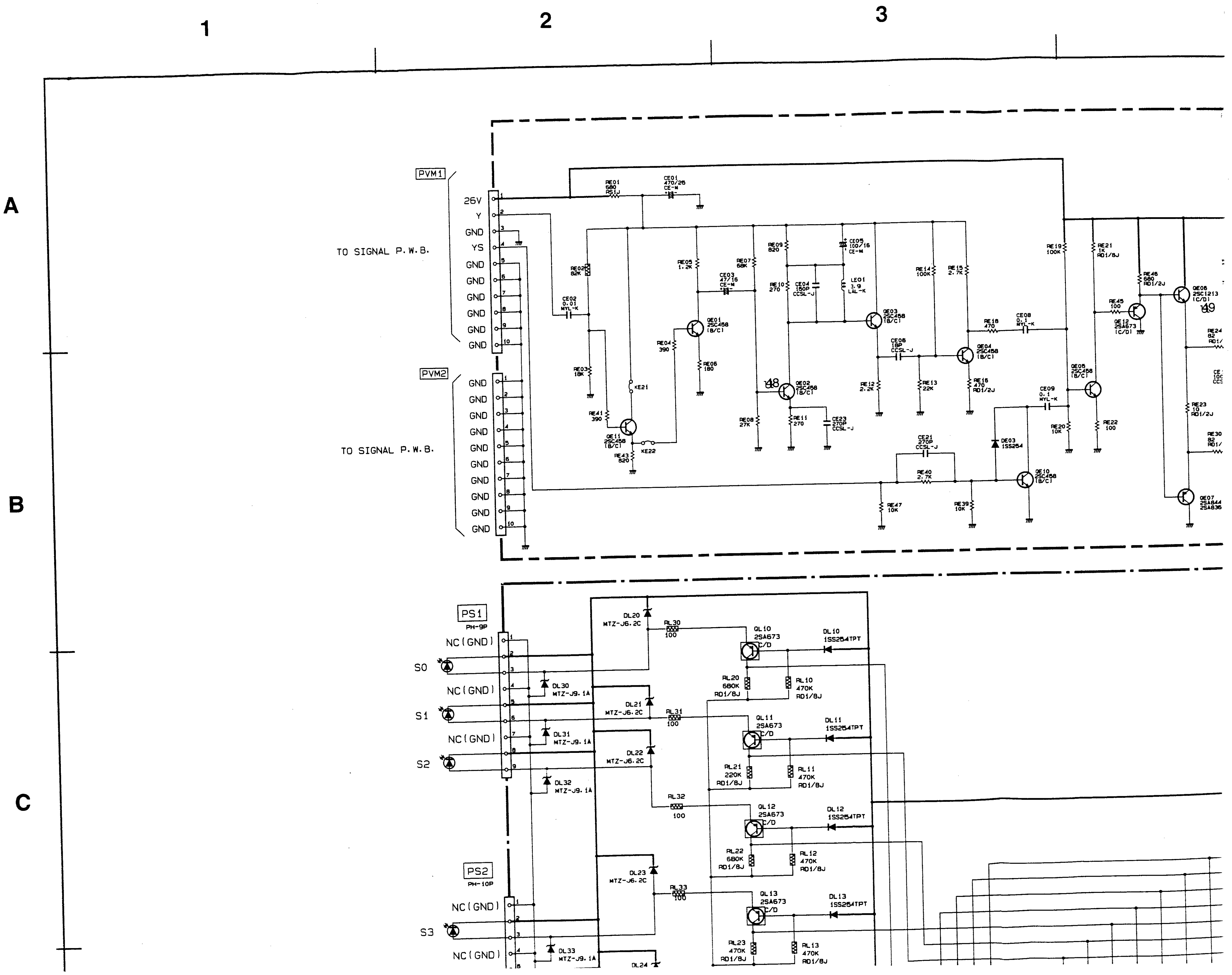
Circuit No.	Pin Name	Voltage DC
QA01	E	1.2
	B	1.8
	C	8.6
QA02	E	9.3
	B	8.6
	C	4.3
QA03	E	1.2
	B	1.8
	C	0
QA04	E	9.3
	B	8.6
	C	4.2
QA05	E	0
	B	0
	C	0
QA06	E	0
	B	0
	C	0
QA74	E	0
	B	0
	C	3.3
QA75	E	0
	B	0.6
	C	0

Circuit No.	Pin Name	Voltage DC
QY57	E	2.5
	B	3.1
	C	9.4
QY58	E	2.8
	B	3.4
	C	8.7
QY59	E	9.4
	B	8.7
	C	3.4
QY60	E	2.8
	B	3.4
	C	9.4
QY61	E	2.8
	B	3.4
	C	8.7
QY62	E	9.4
	B	8.7
	C	3.9
QY63	E	3.3
	B	3.9
	C	9.4

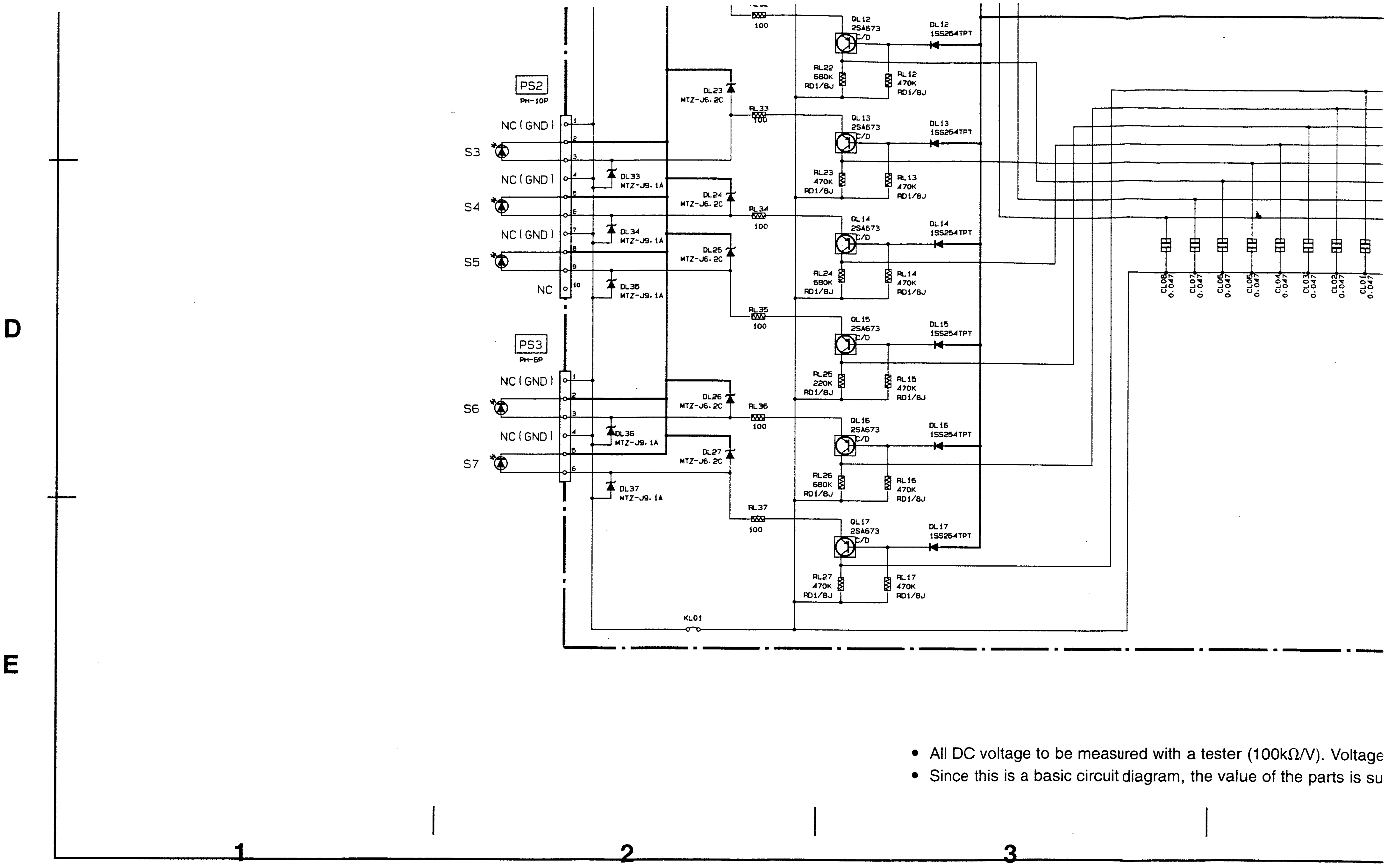
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC C

Circuit No.	Pin Name	Voltage DC
QE01	E	0.7
	B	1.4
	C	7.2
QE02	E	2.1
	B	2.8
	C	5.6
QE03	E	5.0
	B	5.6
	C	12.1
QE04	E	1.3
	B	2.0
	C	4.7
QE05	E	1.3
	B	2.0
	C	13.9
QE06	E	14.0
	B	14.6
	C	25.2
QE07	E	14.0
	B	14.6
	C	0
QE08	E	116.1
	B	115.4
	C	60.0
QE09	E	0
	B	0.7
	C	60.0
QE10	E	0
	B	0
	C	0
QE11	E	1.5
	B	2.1
	C	12.2
QE12	E	14.6
	B	14.0
	C	0

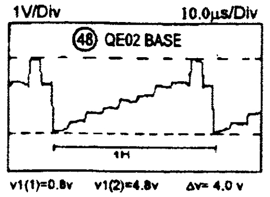


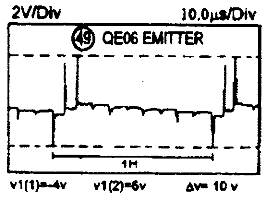
1
2
3
A
B
C
PVM1
TO SIGNAL P.W.B.
25V
Y
GND
YS
PVM2
TO SIGNAL P.W.B.
RE01 680 RS1J
CE01 470/25 CE-M
RE02 82K
CE02 0.01 MYL-K
RE03 18K
RE41 390
QE11 2SC458 (B/C)
RE43 820
KE21
KE22
RE05 1.2K
CE03 47/16 CE-M
QE01 2SC458 (B/C)
RE04 390
RE06 180
RE07 68K
RE08 27K
QE02 2SC458 (B/C)
48
RE11 270
CE23 270P CCSL-J
RE09 820
RE10 270
CE04 150P CCSL-J
CE05 100/16 CE-M
LE01 3.9 LAL-K
QE03 2SC458 (B/C)
CE06 18P CCSL-J
RE12 2.2K
RE13 22K
RE14 100K
RE15 2.7K
QE04 2SC458 (B/C)
RE18 470
CE08 0.1 MYL-K
RE16 470 RD1/2J
CE21 270P CCSL-J
RE40 2.7K
RE47 10K
RE39 10K
DE03 1SS254
QE10 2SC458 (B/C)
CE09 0.1 MYL-K
RE20 10K
QE05 2SC458 (B/C)
RE22 100
RE19 100K
RE21 1K RD1/8J
RE45 100
QE12 2SA673 (C/D)
RE46 680 RD1/2J
QE06 2SC1213 (C/D)
49
RE24 82
RE23 10 RD1/2J
RE30 82
QE07 2SA644 2SA636
PS1
PH-9P
NC(GND)
S0
S1
S2
DL20 MTZ-J6.2C
RL30 100
QL10 2SA673 C/D
DL10 1SS254TPT
RL20 680K RD1/8J
RL10 470K RD1/8J
DL30 MTZ-J9.1A
DL21 MTZ-J6.2C
RL31 100
QL11 2SA673 C/D
DL11 1SS254TPT
DL31 MTZ-J9.1A
DL22 MTZ-J6.2C
RL21 220K RD1/8J
RL11 470K RD1/8J
DL32 MTZ-J9.1A
RL32 100
QL12 2SA673 C/D
DL12 1SS254TPT
RL22 680K RD1/8J
RL12 470K RD1/8J
PS2
PH-10P
S3
DL23 MTZ-J6.2C
RL33 100
QL13 2SA673 C/D
DL13 1SS254TPT
RL23 470K RD1/8J
RL13 470K RD1/8J
DL33 MTZ-J9.1A
DL24

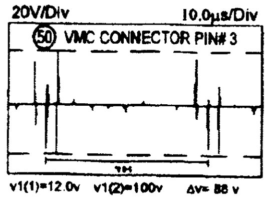


D
E
1
2
3
PS2
PH-10P
PS3
PH-6P
NC (GND)
NC
S3
S4
S5
S6
S7
DL33 MTZ-J9.1A
DL34 MTZ-J9.1A
DL35 MTZ-J9.1A
DL36 MTZ-J9.1A
DL37 MTZ-J9.1A
DL23 MTZ-J6.2C
DL24 MTZ-J6.2C
DL25 MTZ-J6.2C
DL26 MTZ-J6.2C
DL27 MTZ-J6.2C
RL33 100
RL34 100
RL35 100
RL36 100
RL37 100
QL12 2SA673 C/D
QL13 2SA673 C/D
QL14 2SA673 C/D
QL15 2SA673 C/D
QL16 2SA673 C/D
QL17 2SA673 C/D
DL12 1SS254TPT
DL13 1SS254TPT
DL14 1SS254TPT
DL15 1SS254TPT
DL16 1SS254TPT
DL17 1SS254TPT
RL22 680K RD1/8J
RL23 470K RD1/8J
RL24 680K RD1/8J
RL25 220K RD1/8J
RL26 680K RD1/8J
RL27 470K RD1/8J
RL12 470K RD1/8J
RL13 470K RD1/8J
RL14 470K RD1/8J
RL15 470K RD1/8J
RL16 470K RD1/8J
RL17 470K RD1/8J
KL01
CL08 0.047
CL07 0.047
CL06 0.047
CL05 0.047
CL04 0.047
CL03 0.047
CL02 0.047
CL01 0.047

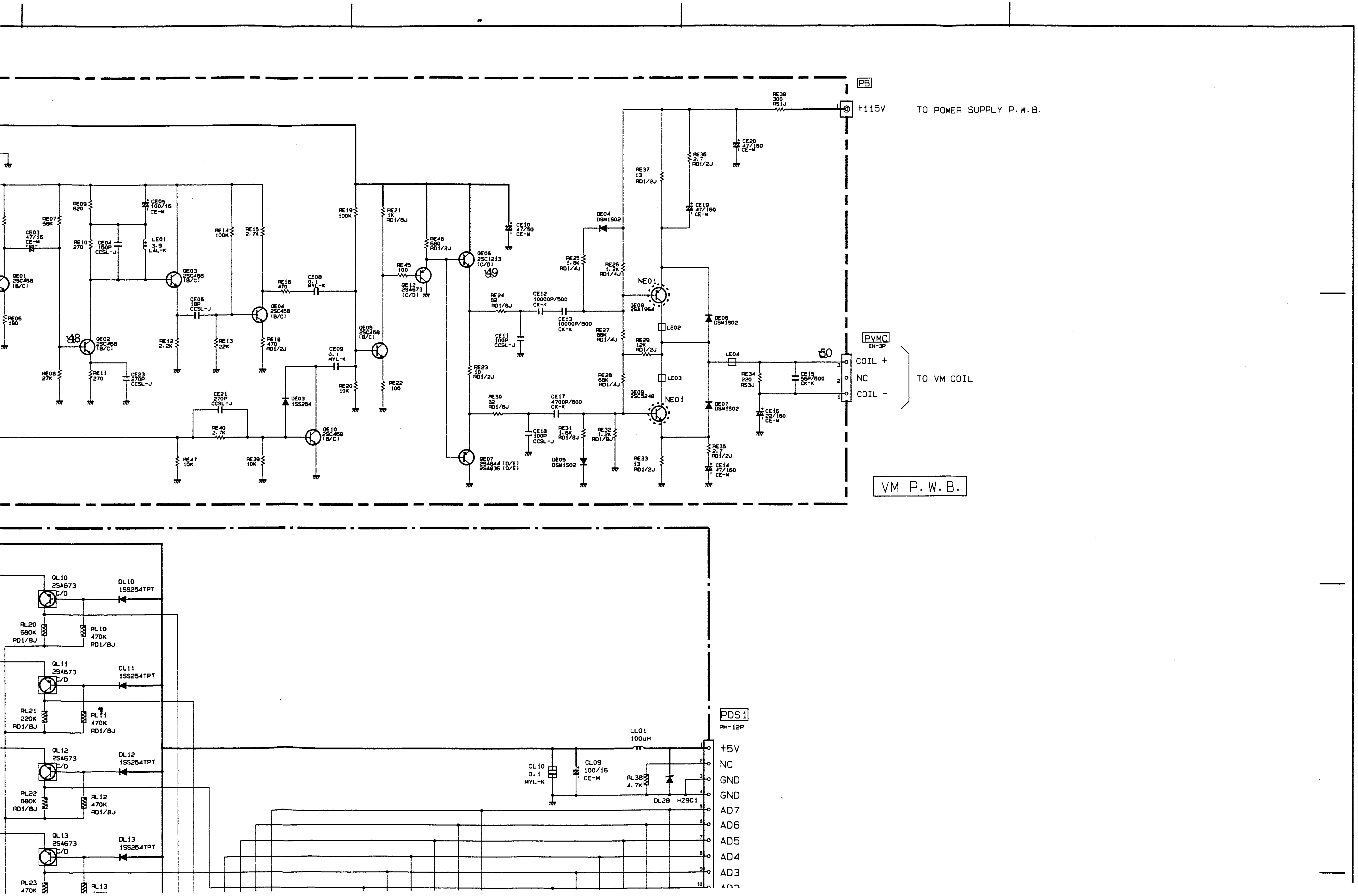
- All DC voltage to be measured with a tester (100kΩ/V). Voltage
- Since this is a basic circuit diagram, the value of the parts is su

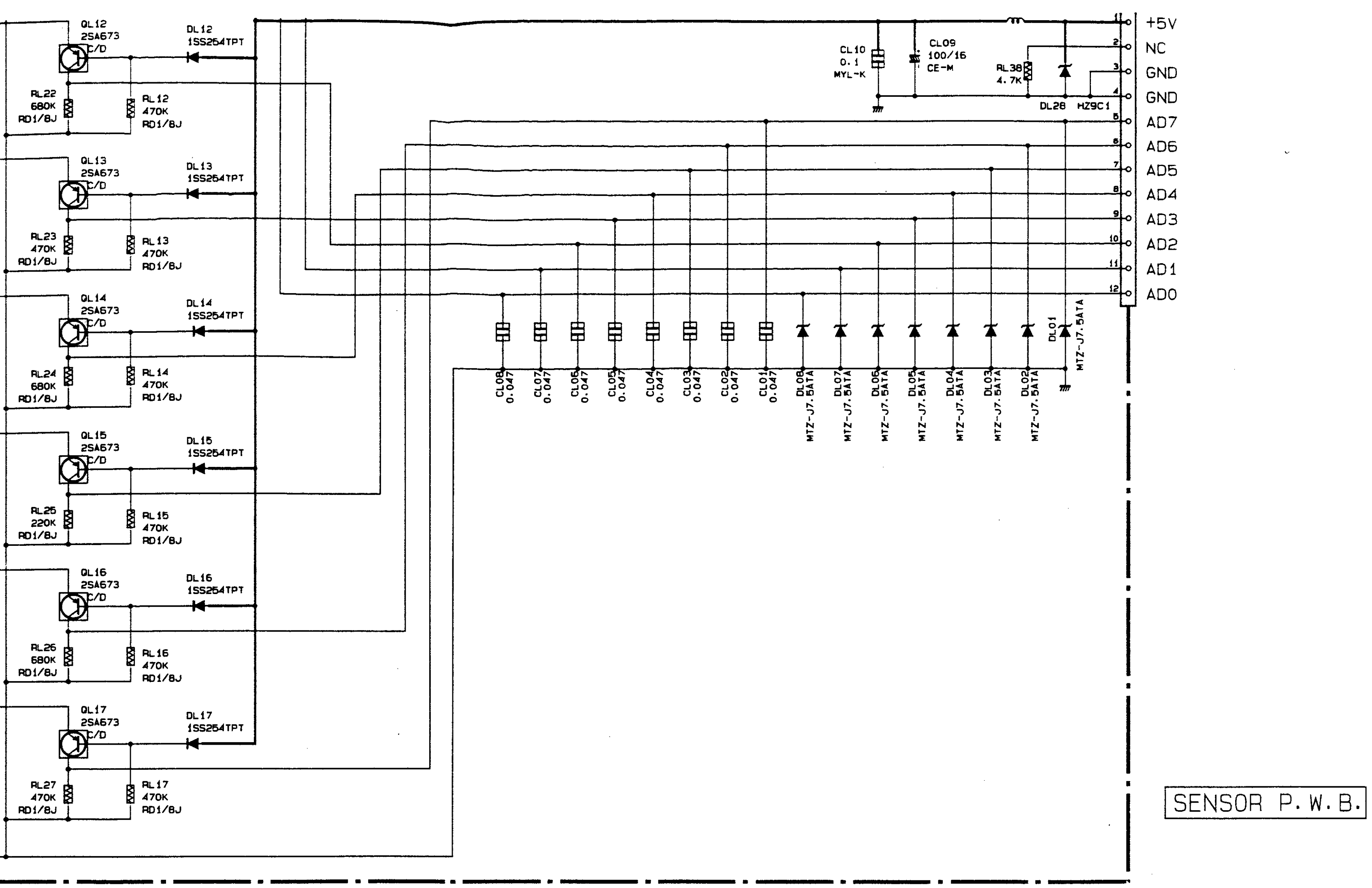






BASIC CIRCUIT DIAGRAM


3
4
5
6
A
B
C
PB
RE38 300 RS1J
+115V
TO POWER SUPPLY P.W.B.
CE20 47/160 CE-M
RE36 2.7 RD1/2J
RE37 13 RD1/2J
CE19 47/160 CE-M
DE04 DSM1S02
RE25 1.5K RD1/4J
RE26 1.2K RD1/4J
NE01
QE08 2SA1964
LE02
RE29 12K RD1/2J
LE03
RE27 68K RD1/4J
RE28 68K RD1/4J
QE09 2SC5248
NE01
DE06 DSM1S02
DE07 DSM1S02
LE04
RE34 220 RS3J
CE15 56P/500 CK-K
CE16 22/160 CE-M
RE35 2.7 RD1/2J
CE14 47/160 CE-M
RE33 13 RD1/2J
50
PVMC
EH-3P
COIL +
NC
COIL -
TO VM COIL
VM P.W.B.
CE03 47/16 CE-M
RE07 68K
RE09 820
RE10 270
CE04 150P CCSL-J
CE05 100/16 CE-M
LE01 3.9 LAL-K
QE01 2SC458 (B/C)
RE06 180
48
QE02 2SC458 (B/C)
RE08 27K
RE11 270
CE23 270P CCSL-J
QE03 2SC458 (B/C)
CE06 18P CCSL-J
RE12 2.2K
RE13 22K
RE14 100K
RE15 2.7K
QE04 2SC458 (B/C)
RE16 470 RD1/2J
RE18 470
CE08 0.1 MYL-K
CE21 270P CCSL-J
RE40 2.7K
RE47 10K
RE39 10K
DE03 1SS254
QE10 2SC458 (B/C)
CE09 0.1 MYL-K
RE19 100K
RE20 10K
QE05 2SC458 (B/C)
RE21 1K RD1/8J
RE22 100
RE45 100
QE12 2SA673 (C/D)
RE46 680 RD1/2J
QE06 2SC1213 (C/D)
49
CE10 47/50 CE-M
RE24 82 RD1/8J
CE11 100P CCSL-J
CE12 10000P/500 CK-K
CE13 10000P/500 CK-K
RE23 10 RD1/2J
RE30 82 RD1/8J
CE18 100P CCSL-J
CE17 4700P/500 CK-K
RE31 1.5K RD1/8J
DE05 DSM1S02
RE32 1.2K RD1/8J
QE07 2SA844 (D/E) 2SA836 (D/E)
QL10 2SA673 C/D
DL10 1SS254TPT
RL20 680K RD1/8J
RL10 470K RD1/8J
QL11 2SA673 C/D
DL11 1SS254TPT
RL21 220K RD1/8J
RL11 470K RD1/8J
QL12 2SA673 C/D
DL12 1SS254TPT
RL22 680K RD1/8J
RL12 470K RD1/8J
QL13 2SA673 C/D
DL13 1SS254TPT
RL23 470K
RL13
LL01 100uH
CL10 0.1 MYL-K
CL09 100/16 CE-M
RL38 4.7K
DL28 HZ9C1
PDS1
PH-12P
+5V
NC
GND
GND
AD7
AD6
AD5
AD4
AD3


QL12
2SA673
C/D
DL12
1SS254TPT
RL22
680K
RD1/8J
RL12
470K
RD1/8J
QL13
2SA673
C/D
DL13
1SS254TPT
RL23
470K
RD1/8J
RL13
470K
RD1/8J
QL14
2SA673
C/D
DL14
1SS254TPT
RL24
680K
RD1/8J
RL14
470K
RD1/8J
QL15
2SA673
C/D
DL15
1SS254TPT
RL25
220K
RD1/8J
RL15
470K
RD1/8J
QL16
2SA673
C/D
DL16
1SS254TPT
RL26
680K
RD1/8J
RL16
470K
RD1/8J
QL17
2SA673
C/D
DL17
1SS254TPT
RL27
470K
RD1/8J
RL17
470K
RD1/8J
CL10
0.1
MYL-K
CL09
100/16
CE-M
RL38
4.7K
DL28
HZ9C1
+5V
NC
GND
GND
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
CL08 0.047
CL07 0.047
CL06 0.047
CL05 0.047
CL04 0.047
CL03 0.047
CL02 0.047
CL01 0.047
DL08 MTZ-J7.5ATA
DL07 MTZ-J7.5ATA
DL06 MTZ-J7.5ATA
DL05 MTZ-J7.5ATA
DL04 MTZ-J7.5ATA
DL03 MTZ-J7.5ATA
DL02 MTZ-J7.5ATA
DL01 MTZ-J7.5ATA
SENSOR P.W.B.

D

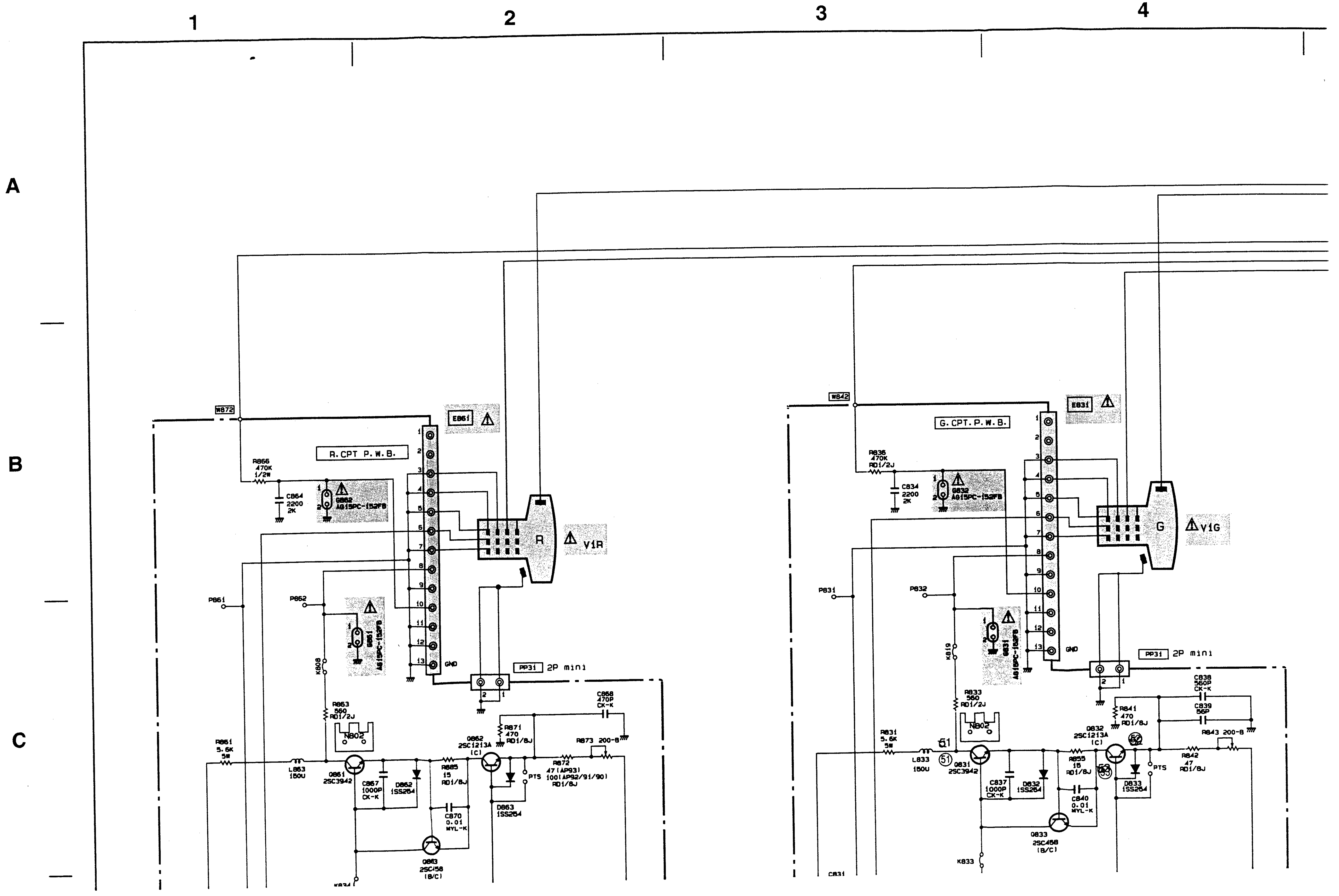
E

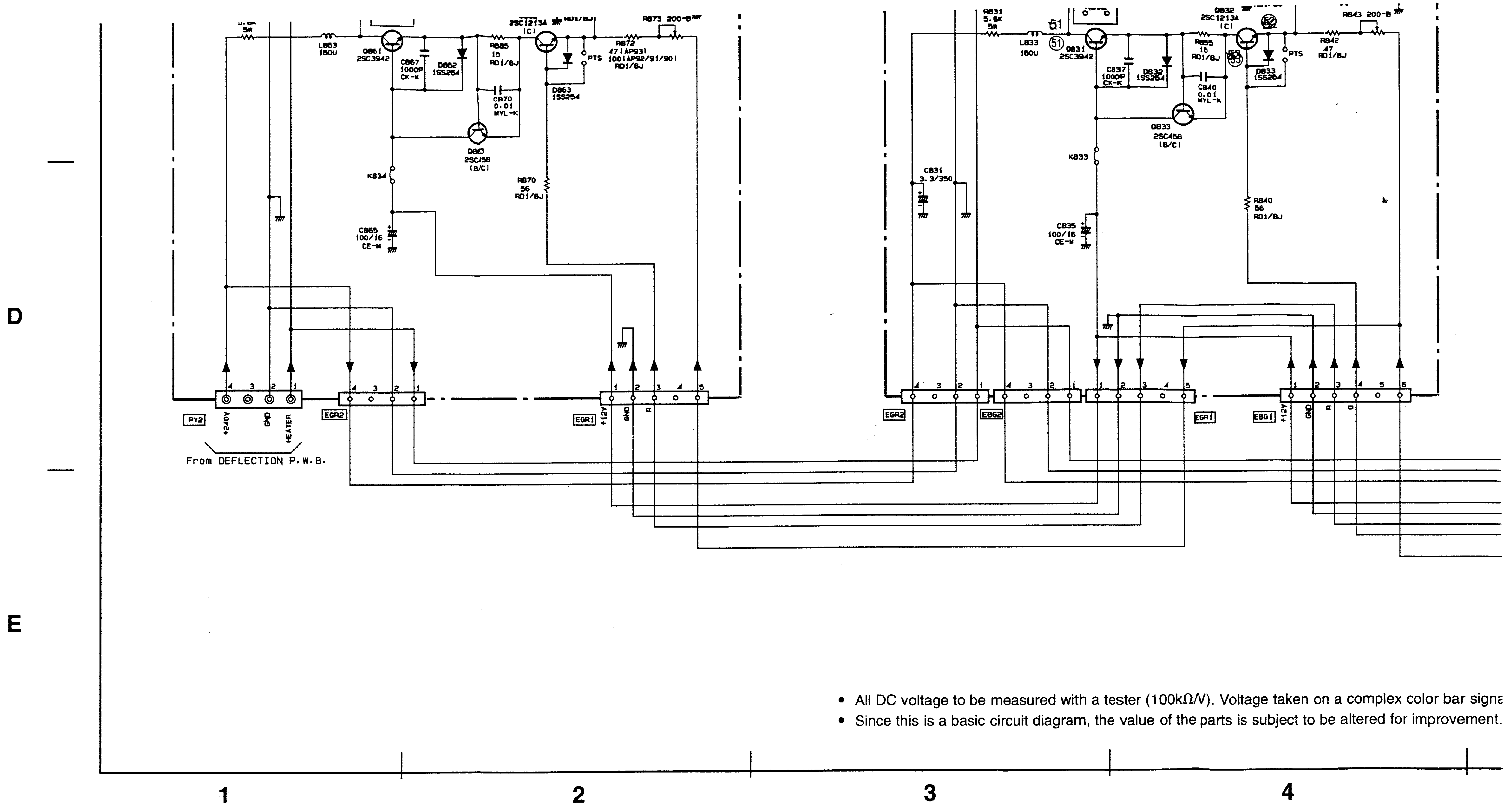
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

VM P.W.B. / SENSOR P.W.B

3 4 5 6

BASIC CIRCUIT DIAGRAM

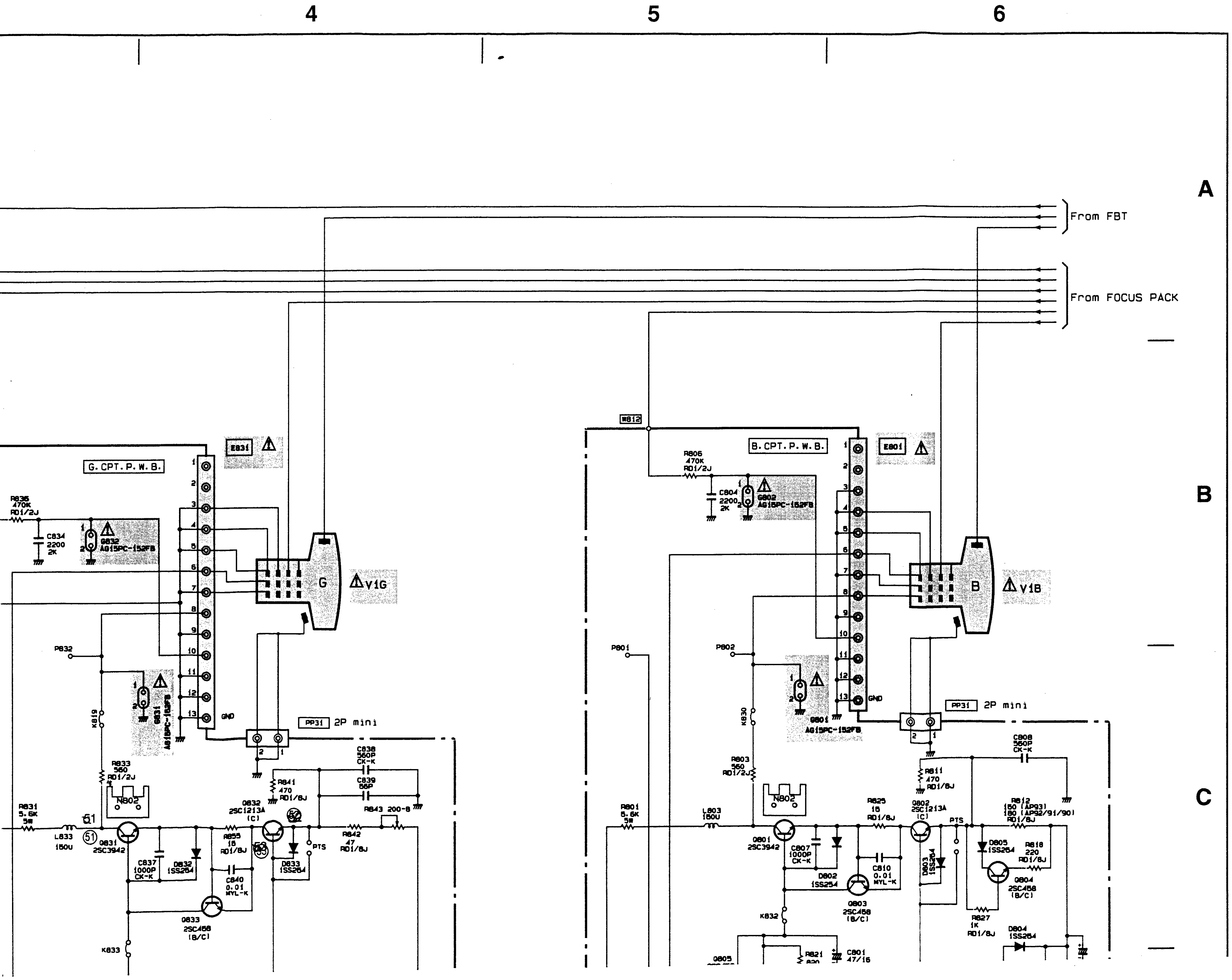

1
2
3
4
A
B
C
W872
E861
R. CPT P. W. B.
R866
470K
1/2W
C864
2200
2K
G862
AG15PC-152FB
1
2
3
4
5
6
7
8
9
10
11
12
13
GND
R
V1R
P861
P862
G861
AG15PC-152FB
K808
PP31
2P mini
R863
560
RD1/2J
N802
R861
5.6K
5W
L863
150U
Q861
2SC3942
C867
1000P
CK-K
D862
1SS264
R885
15
RD1/8J
C870
0.01
MYL-K
Q863
2SC458
(B/C)
K834
Q862
2SC1213A
(C)
R871
470
RD1/8J
C868
470P
CK-K
R873 200-B
R872
47 (AP93)
100 (AP92/91/90)
RD1/8J
PTS
D863
1SS264
W842
E831
G. CPT. P. W. B.
R836
470K
RD1/2J
C834
2200
2K
G832
AG15PC-152FB
G
V1G
P831
P832
G831
AG15PC-152FB
K819
R833
560
RD1/2J
R831
5.6K
5W
L833
150U
(51)
Q831
2SC3942
C837
1000P
CK-K
D832
1SS264
R855
15
RD1/8J
(53)
C840
0.01
MYL-K
Q833
2SC458
(B/C)
K833
C831
Q832
2SC1213A
(C)
(52)
D833
1SS264
R841
470
RD1/8J
C838
560P
CK-K
C839
56P
R843 200-B
R842
47
RD1/8J


D
E
1
2
3
4
5W
L863
150U
Q861
2SC3942
C867
1000P
CK-K
D862
1SS254
R865
15
RD1/8J
2SC1213A
(C)
R872
47 (AP93)
100 (AP92/91/90)
RD1/8J
R873 200-B
PTS
D863
1SS254
C870
0.01
MYL-K
Q863
2SC458
(B/C)
K834
R870
56
RD1/8J
C865
100/16
CE-M
PY2
+240V
GND
HEATER
From DEFLECTION P.W.B.
EGR2
EGR1
+12V
GND
R
R831
5.6K
5W
L833
150U
(51)
Q831
2SC3942
C837
1000P
CK-K
D832
1SS254
Q832
2SC1213A
(C)
(52)
(53)
R855
15
RD1/8J
C840
0.01
MYL-K
D833
1SS254
PTS
R842
47
RD1/8J
R843 200-B
Q833
2SC458
(B/C)
K833
C831
3.3/350
C835
100/16
CE-M
R840
56
RD1/8J
EGR2
EBG2
EGR1
EBG1
+12V
GND
R
G

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signa
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

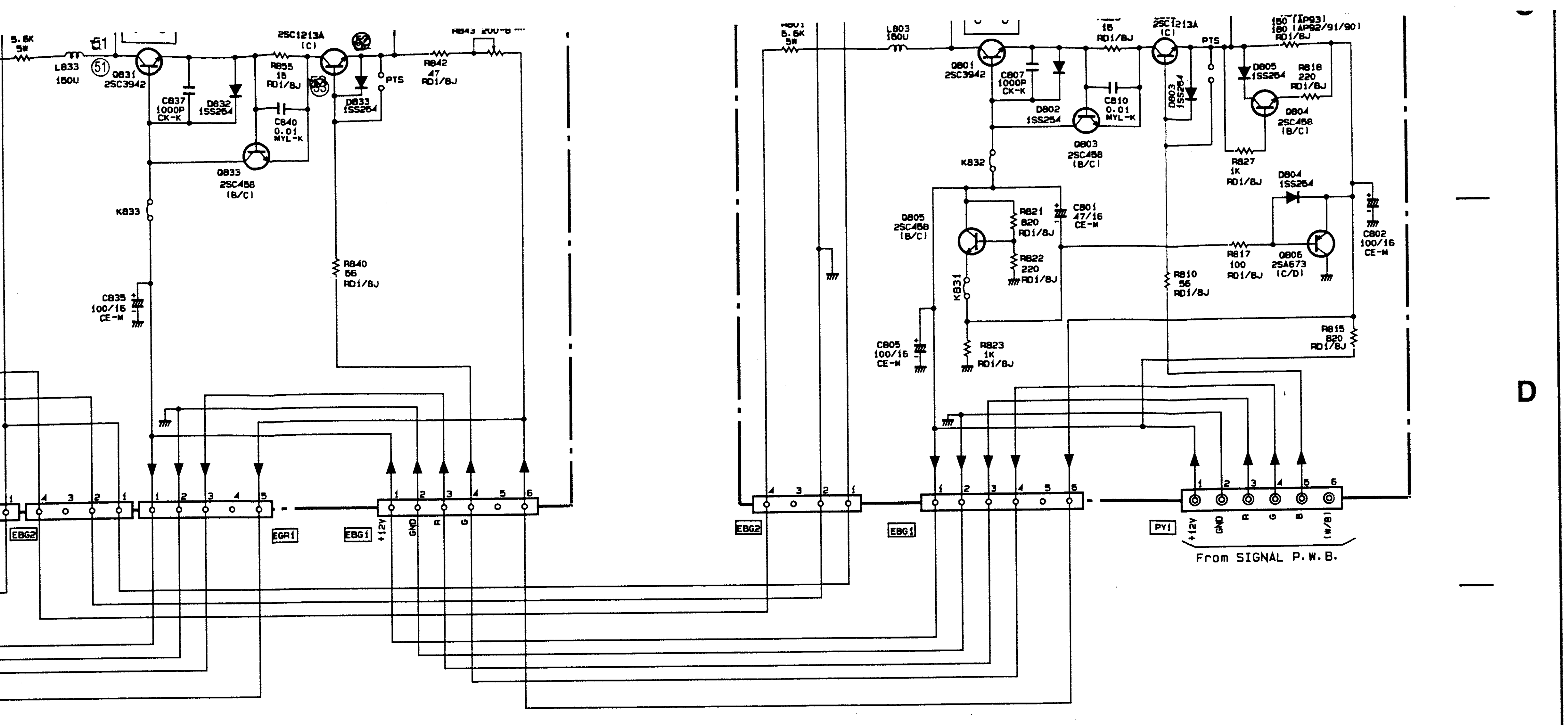
GRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


4
5
6
A
B
C
From FBT
From FOCUS PACK
G.CPT.P.W.B.
B.CPT.P.W.B.
E831
E801
W812
G
B
V1G
V1B
Q832 AG15PC-152FB
Q831 AG15PC-152FB
G802 AG15PC-152FB
G801 AG15PC-152FB
R836 470K RD1/2J
C834 2200 2K
R806 470K RD1/2J
C804 2200 2K
P832
P801
P802
K819
K830
K832
K833
R833 560 RD1/2J
R803 560 RD1/2J
N802
R831 5.6K 5W
R801 5.6K 5W
L833 150U
L803 150U
Q831 2SC3942
Q801 2SC3942
C837 1000P CK-K
C807 1000P CK-K
D832 1SS254
D802 1SS254
R855 15 RD1/8J
R825 15 RD1/8J
C840 0.01 MYL-K
C810 0.01 MYL-K
Q833 2SC458 (B/C)
Q803 2SC458 (B/C)
Q832 2SC1213A (C)
Q802 2SC1213A (C)
R841 470 RD1/8J
R811 470 RD1/8J
PP31 2P mini
C838 560P CK-K
C808 560P CK-K
C839 56P
R843 200-B
R842 47 RD1/8J
D833 1SS254
D803 1SS254
PTS
R812 150 (AP93) 180 (AP92/91/90) RD1/8J
D805 1SS254
R818 220 RD1/8J
Q804 2SC458 (B/C)
R827 1K RD1/8J
D804 1SS254
Q805
R821
C801 47/16
GND
51
52
53

Circuit No.	Pin Name	Voltage DC
Q801	E	11.2
	B	11.7
	C	134.5
Q802	E	3.4
	B	3.8
	C	10.9
Q803	E	10.9
	B	11.1
	C	11.7
Q804	E	2.9
	B	3.4
	C	3.2
Q805	E	1.8
	B	2.5
	C	11.7
Q806	E	1.5
	B	1.8
	C	0
Q831	E	11.15
	B	11.7
	C	138.2
Q832	E	3.4
	B	3.8
	C	10.9

Circuit No.	Pin Name	Voltage DC
Q833	E	10.9
	B	11.2
	C	11.7
Q861	E	11.2
	B	11.7
	C	155.9
Q862	E	3.3
	B	3.8
	C	11.1
Q863	E	11.1
	B	11.2
	C	11.7


5.6K
5W
L833
150U
(51)
Q831
2SC3942
C837
1000P
CK-K
D832
1SS254
2SC1213A
(C)
R855
15
RD1/8J
(52)
(53)
C840
0.01
MYL-K
D833
1SS254
PTS
R842
47
RD1/8J
R843 200-B
Q833
2SC458
(B/C)
K833
C835
100/16
CE-M
R840
56
RD1/8J
EBG2
EGR1
EBG1
+12V
GND
R
G
R801
5.6K
5W
L803
150U
Q801
2SC3942
C807
1000P
CK-K
D802
1SS254
15
RD1/8J
C810
0.01
MYL-K
Q803
2SC458
(B/C)
2SC1213A
(C)
PTS
D803
1SS254
150 (AP93)
180 (AP92/91/90)
RD1/8J
D805
1SS254
R818
220
RD1/8J
Q804
2SC458
(B/C)
R827
1K
RD1/8J
D804
1SS254
K832
Q805
2SC458
(B/C)
R821
820
RD1/8J
C801
47/16
CE-M
R822
220
RD1/8J
K831
R817
100
RD1/8J
Q806
2SA673
(C/D)
C802
100/16
CE-M
R810
56
RD1/8J
R815
820
RD1/8J
C805
100/16
CE-M
R823
1K
RD1/8J
1
2
3
4
5
6
PY1
+12V
GND
R
G
B
(W/B)
From SIGNAL P.W.B.
D

be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
sic circuit diagram, the value of the parts is subject to be altered for improvement.

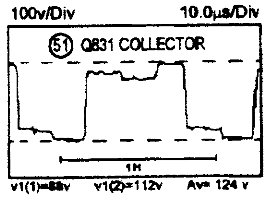
CPT P.W.B.

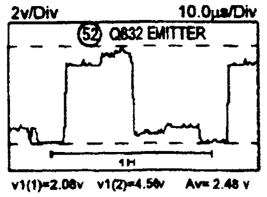
E

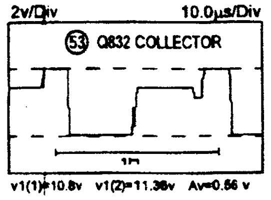
4

5

6

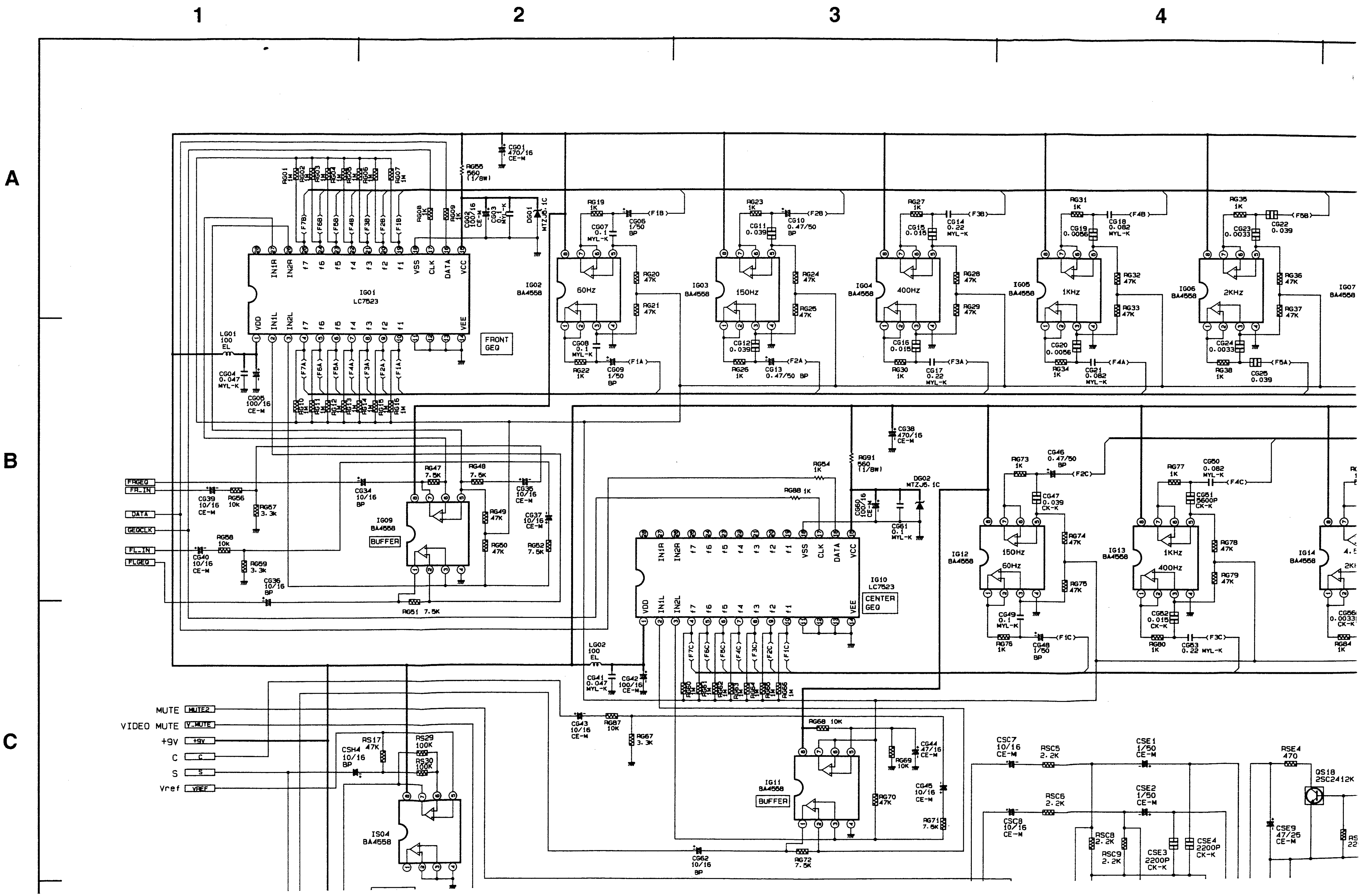


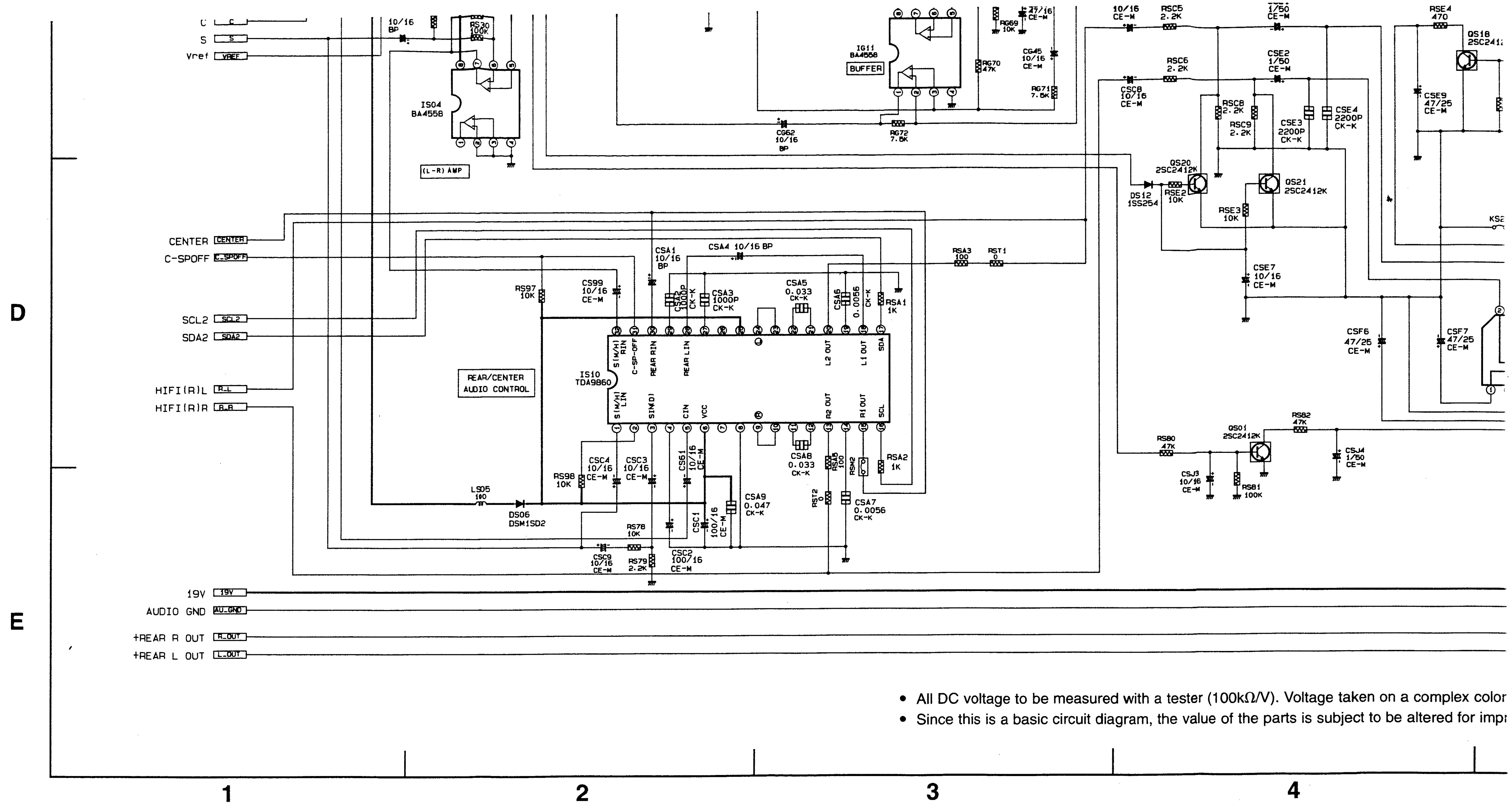




BASIC CIRCUIT DIAGRAM

Circuit No.	Pin No.	Voltage DC
IS08	1	4.5
	2	4.5
	3	4.5
	4	0
	5	4.5
	6	4.5
	7	4.5
	8	9.2
IS09	1	4
	2	0
	3	8
	4	0
	5	1.3
	6	9.2
	7	3.7
IS12	1	4.6
	2	1.1
	3	4.6
	4	9.2
	5	4.6
	6	0
	7	0.1
	8	4.6
	9	2
	10	4.6


1
2
3
4
A
B
C
IG01
LC7523
FRONT GEQ
IN1R
IN2R
VSS
CLK
DATA
VCC
VDD
IN1L
IN2L
VEE
f7
f6
f5
f4
f3
f2
f1
IG02 BA4558
60Hz
IG03 BA4558
150Hz
IG04 BA4558
400Hz
IG05 BA4558
1KHz
IG06 BA4558
2KHz
IG07 BA4558
IG09 BA4558
BUFFER
IG10
LC7523
CENTER GEQ
IG11 BA4558
BUFFER
IG12 BA4558
150Hz
60Hz
IG13 BA4558
1KHz
400Hz
IG14 BA4558
IS04 BA4558
DG01 MTZJ5.1C
DG02 MTZJ5.1C
CG01 470/16 CE-M
CG38 470/16 CE-M
RG55 560 (1/8W)
RG91 560 (1/8W)
LG01 100 EL
LG02 100 EL
CG04 0.047 MYL-K
CG05 100/16 CE-M
CG41 0.047 MYL-K
CG42 100/16 CE-M
RG47 7.5K
RG48 7.5K
RG51 7.5K
RG52 7.5K
RG49 47K
RG50 47K
RG56 10K
RG57 3.3K
RG58 10K
RG59 3.3K
CG34 10/16 BP
CG35 10/16 CE-M
CG36 10/16 BP
CG37 10/16 CE-M
CG39 10/16 CE-M
CG40 10/16 CE-M
FRGEQ
FR_IN
DATA
GEQCLK
FL_IN
FLGEQ
MUTE
MUTE2
VIDEO MUTE
V_MUTE
+9V
C
S
Vref
VREF
RS17 47K
RS29 100K
RS30 100K
CSH4 10/16 BP
CG43 10/16 CE-M
RG87 10K
RG67 3.3K
RG68 10K
RG69 10K
RG70 47K
RG71 7.5K
RG72 7.5K
CG44 47/16 CE-M
CG45 10/16 CE-M
CG62 10/16 BP
RG54 1K
RG88 1K
CG60 100/16 CE-M
CG61 0.1 MYL-K
CSC7 10/16 CE-M
CSC8 10/16 CE-M
RSC5 2.2K
RSC6 2.2K
RSC8 2.2K
RSC9 2.2K
CSE1 1/50 CE-M
CSE2 1/50 CE-M
CSE3 2200P CK-K
CSE4 2200P CK-K
RSE4 470
CSE9 47/25 CE-M
QS18 2SC2412K

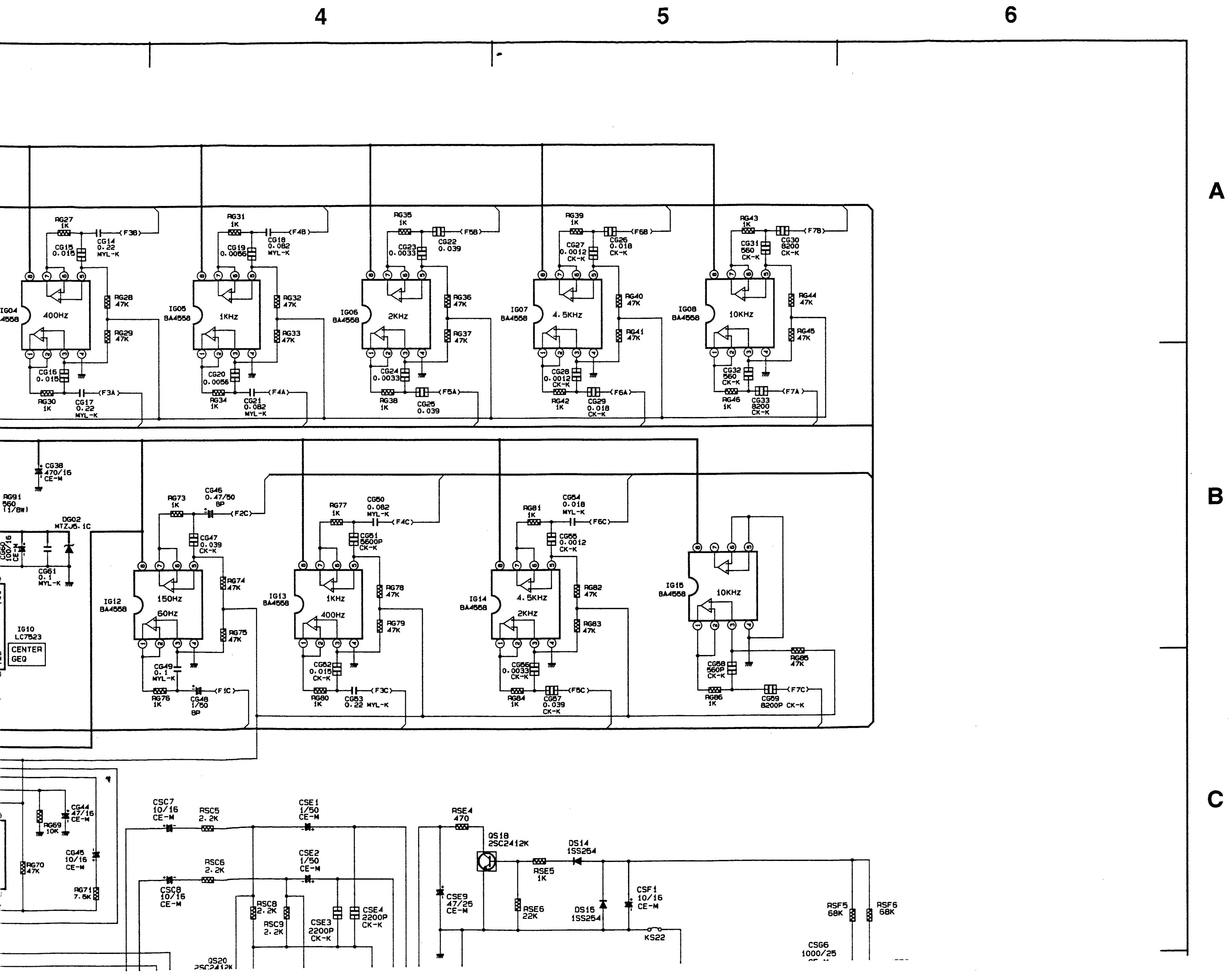


C
S
Vref
VREF
CENTER
C-SPOFF
SCL2
SDA2
HIFI(R)L
HIFI(R)R
19V
AUDIO GND
+REAR R OUT
+REAR L OUT
D
E
1
2
3
4
IS04
BA4558
(L-R) AMP
RS30
100K
10/16
BP
IG11
BA4558
BUFFER
CG62
10/16
BP
RG72
7.5K
RG69
10K
RG70
47K
RG71
7.5K
CG45
10/16
CE-M
IS10
TDA9860
REAR/CENTER
AUDIO CONTROL
CSA1
10/16
BP
CSA4 10/16 BP
CSA2
1000P
CK-K
CSA3
1000P
CK-K
CSA5
0.033
CK-K
CSA6
0.0056
CK-K
RSA1
1K
RSA2
1K
RS97
10K
CS99
10/16
CE-M
RS98
10K
CSC4
10/16
CE-M
CSC3
10/16
CE-M
CS61
10/16
CE-M
CSC1
100/16
CE-M
CSA9
0.047
CK-K
CSA8
0.033
CK-K
RSA5
100
RSM2
RST2
0
CSA7
0.0056
CK-K
LS05
100
DS06
DSM1SD2
RS78
10K
CSC9
10/16
CE-M
RS79
2.2K
CSC2
100/16
CE-M
RSA3
100
RST1
0
S1(W/H) RIN
C-SP-OFF
REAR RIN
REAR LIN
L2 OUT
L1 OUT
SDA
S1(W/H) LIN
S1N(D)
CIN
VCC
R2 OUT
R1 OUT
SCL
RSC5
2.2K
1/50
CE-M
RSC6
2.2K
CSE2
1/50
CE-M
CSC8
10/16
CE-M
RSC8
2.2K
RSC9
2.2K
CSE3
2200P
CK-K
CSE4
2200P
CK-K
QS20
2SC2412K
QS21
2SC2412K
DS12
1SS254
RSE2
10K
RSE3
10K
CSE7
10/16
CE-M
RSE4
470
QS18
2SC241
CSE9
47/25
CE-M
KS2
CSF6
47/25
CE-M
CSF7
47/25
CE-M
QS01
2SC2412K
RS80
47K
RS82
47K
CSJ3
10/16
CE-M
RS81
100K
CSJ4
1/50
CE-M

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for imp

AGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

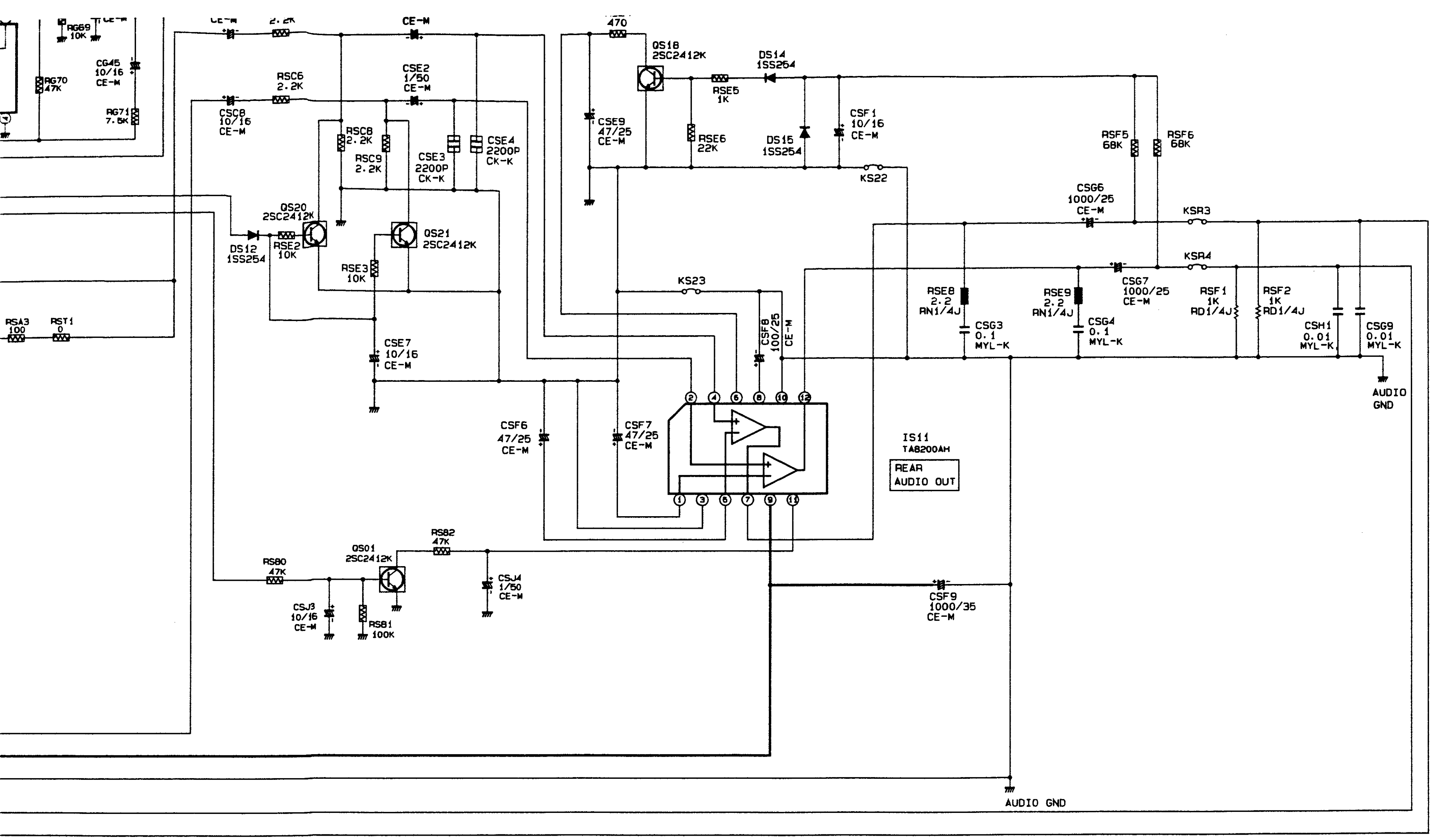


4
5
6
A
B
C
IG04 BA4558
400Hz
IG05 BA4558
1KHz
IG06 BA4558
2KHz
IG07 BA4558
4.5KHz
IG08 BA4558
10KHz
IG12 BA4558
150Hz
60Hz
IG13 BA4558
1KHz
400Hz
IG14 BA4558
4.5KHz
2KHz
IG15 BA4558
10KHz
IG10 LC7523
CENTER GEQ
DG02 MTZJ6.1C
CG38 470/16 CE-M
RG91 560 (1/8W)
CG61 0.1 MYL-K
QS18 2SC2412K
DS14 1SS254
DS15 1SS254
CSF1 10/16 CE-M
RSE4 470
RSE5 1K
RSE6 22K
CSE9 47/25 CE-M
CSC7 10/16 CE-M
CSC8 10/16 CE-M
RSC5 2.2K
RSC6 2.2K
RSC8 2.2K
RSC9 2.2K
CSE1 1/50 CE-M
CSE2 1/50 CE-M
CSE3 2200P CK-K
CSE4 2200P CK-K
RSF5 68K
RSF6 68K
CSG6 1000/25
KS22
QS20 2SC2412K
CG44 47/16 CE-M
CG45 10/16 CE-M
RG69 10K
RG70 47K
RG71 7.5K

Circuit No.	Pin No.	Voltage DC
IS01	1	4.6
	2	4.6
	3	4.5
	4	4.5
	5	4.5
	6	4.5
	7	4.5
	8	4.5
	9	4.5
	10	4.5
	11	0
	12	4.5
	13	4.5
	14	4.5
	15	4.5
	16	5.2
	17	4.5
	18	5.3
	19	4.5
	20	4.5
	21	4.5
	22	2.8
	23	2.8
	24	2.9
	25	5.3
	26	4.5
	27	5.2
	28	4.5
	29	4.5
	30	4.5
	31	4.5
	32	4.5
	33	4.5
	34	4.5
	35	4.5
	36	4.5
	37	4.5
	38	9
	39	0
	40	5.2
	41	5.2
	42	5.2

Circuit No.	Pin No.	Voltage DC
IS02	1	4.5
	2	4.5
	3	4.5
	4	0
	5	4.5
	6	4.5
	7	4.5
	8	9.2
IS03	1	0
	2	5.2
	3	5.2
	4	5.2
	5	2.3
	6	0.7
	7	9.1
	8	4.5
	9	4.5
	10	4.5
	11	4.5
	12	4.5
	13	4.5
	14	4.5
	15	4.5
	16	4.5
	17	0
	18	4.5
	19	4.5
	20	4.5
	21	4.5
	22	4.8
	23	2.3
	24	2.1

Circuit No.	Pin No.	Voltage DC
	1	0
	2	0.1
	3	4.2
	4	8.4
	5	4.2
	6	8.4
	7	4.2
	8	0
	9	4.2
	10	4.2
	11	4.2
	12	4.2
	13	4.2
	14	4.2
	15	4.2


RG69
10K
CG45
10/16
CE-M
RG70
47K
RG71
7.5K
CE-M
2.2K
CE-M
RSC6
2.2K
CSE2
1/50
CE-M
CSC8
10/16
CE-M
RSC8
2.2K
RSC9
2.2K
CSE3
2200P
CK-K
CSE4
2200P
CK-K
QS20
2SC2412K
QS21
2SC2412K
DS12
1SS254
RSE2
10K
RSE3
10K
RSA3
100
RST1
0
CSE7
10/16
CE-M
470
QS18
2SC2412K
DS14
1SS254
RSE5
1K
CSE9
47/25
CE-M
RSE6
22K
DS15
1SS254
CSF1
10/16
CE-M
KS22
RSF5
68K
RSF6
68K
CSG6
1000/25
CE-M
KSR3
KSR4
CSG7
1000/25
CE-M
KS23
CSF8
100/25
CE-M
RSE8
2.2
RN1/4J
CSG3
0.1
MYL-K
RSE9
2.2
RN1/4J
CSG4
0.1
MYL-K
RSF1
1K
RD1/4J
RSF2
1K
RD1/4J
CSH1
0.01
MYL-K
CSG9
0.01
MYL-K
AUDIO
GND
CSF6
47/25
CE-M
CSF7
47/25
CE-M
IS11
TA8200AH
REAR
AUDIO OUT
QS01
2SC2412K
RS82
47K
RS80
47K
CSJ4
1/50
CE-M
CSJ3
10/16
CE-M
RS81
100K
CSF9
1000/35
CE-M
AUDIO GND

C voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
e this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

SURROUND 1/2

	42	5.2

	7	4.2
	8	0
	9	4.2
	10	4.2
	11	4.2
	12	4.2
	13	4.2
	14	4.2
	15	4.2
IS05	16	4.9
	17	8.9
	18	4.2
	19	4.2
	20	4.2
	21	4.2
	22	4.2
	23	4.2
	24	4.2
	25	0
	26	4.2
	27	4.2
	28	4.2
	29	4.2
	30	4.2
	31	0.1
	32	4.2

D

E

4 5 6

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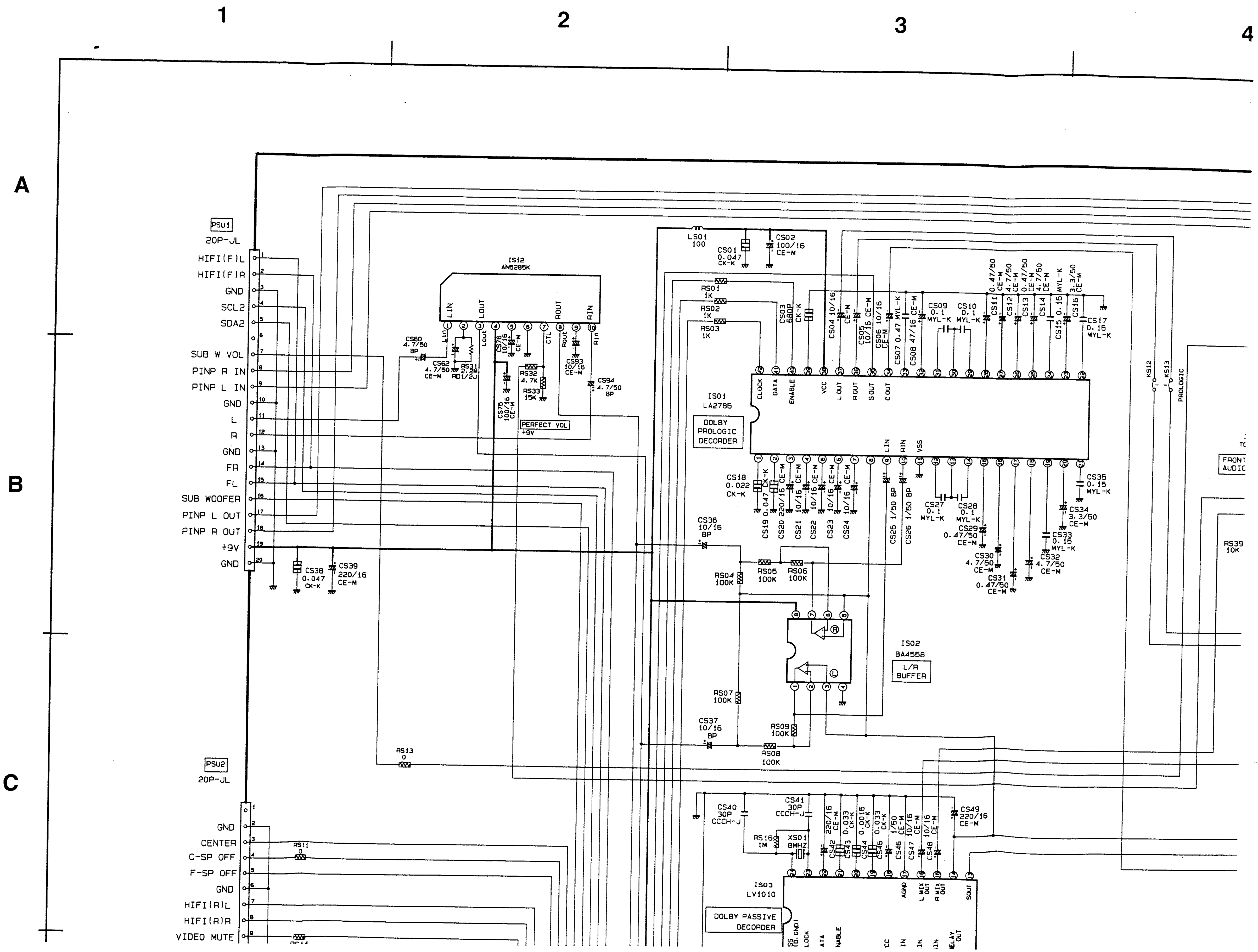
BASIC C

Circuit No.	Pin No.	Voltage DC
IS10	1	4.2
	2	0.1
	3	4.2
	4	8.4
	5	4.2
	6	8.4
	7	4.2
	8	0
	9	4.2
	10	4.2
	11	4.2
	12	4.2
	13	4.2
	14	4.2
	15	4.2
	16	4.9
	17	4.9
	18	4.2
	19	4.2
	20	4.2
	21	4.2
	22	4.2
	23	4.2
	24	4.2
	25	8.4
	26	4.2
	27	4.2
	28	0
	29	0
	30	4.2
	31	4.4
	32	4.2
IS11	1	1.6
	2	0
	3	0
	4	0
	5	1.6
	6	7.6
	7	10.4
	8	5
	9	22.6
	10	0
	11	4.2
	12	10.4
QS01	E	0
	B	0
	C	4.1
QS18	E	0
	B	0

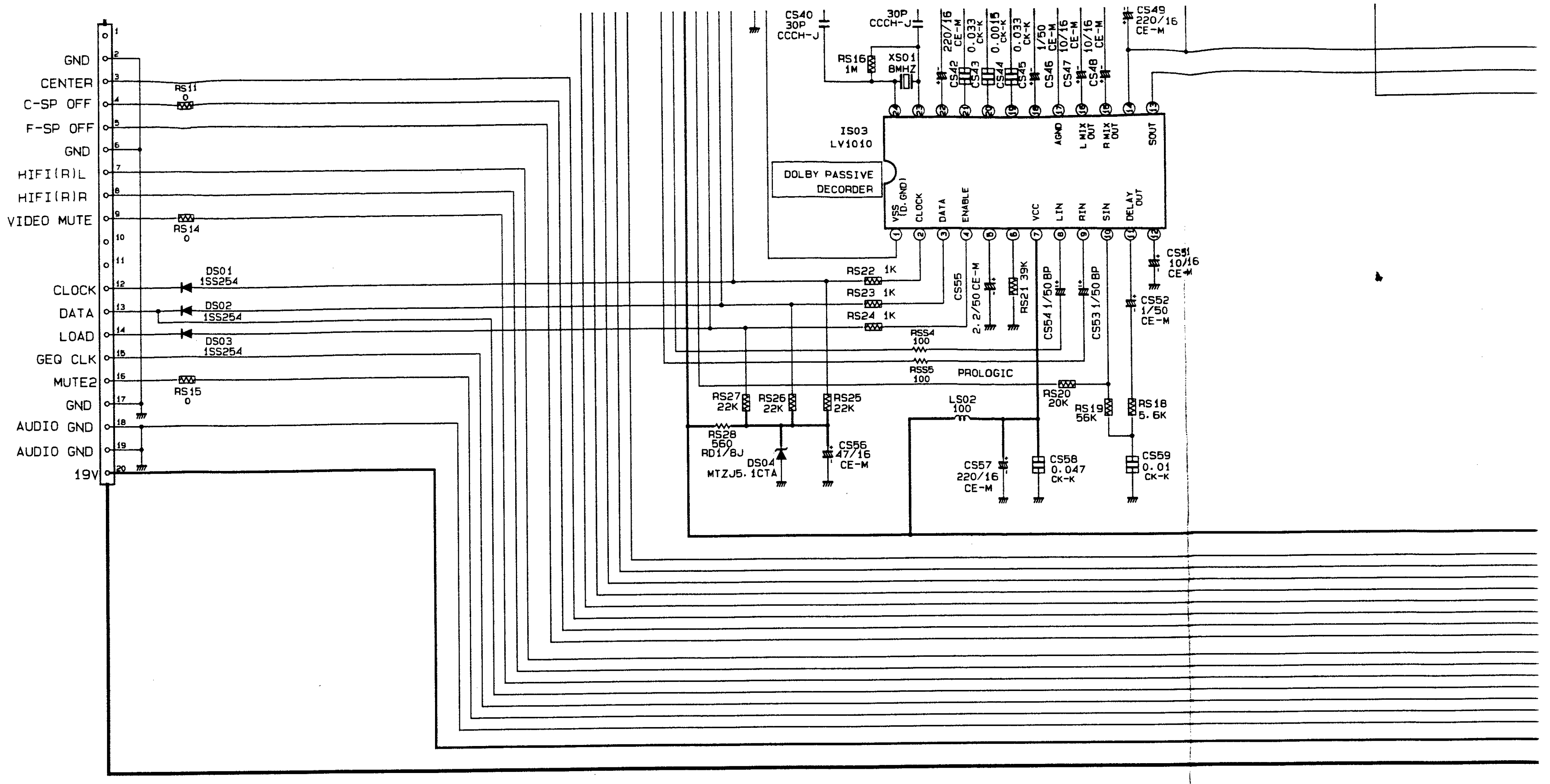
Circuit No.	Pin No.	Voltage DC
IG10	1	9.3
	2	4.7
	3	4.7
	4	4.7
	5	4.7
	6	4.7
	7	4.7
	8	4.7
	9	4.7
	10	4.7
	11	0
	12	0
	13	0
	14	0
	15	5.3
	16	5
	17	0
	18	0
	19	0
	20	0
	21	0
	22	0
	23	0
	24	0
	25	0
	26	0
	27	0
	28	0
IG11	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG12	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG13	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7



1
2
3
4
A
B
C
PSU1
20P-JL
HIFI(F)L
HIFI(F)R
GND
SCL2
SDA2
SUB W VOL
PINP R IN
PINP L IN
GND
L
R
GND
FR
FL
SUB WOOFER
PINP L OUT
PINP R OUT
+9V
GND
IS12
AN5285K
LIN
LOUT
ROUT
RIN
CTL
PERFECT VOL
+9V
CS60 4.7/50 BP
CS62 4.7/50 CE-M
RS31 2.2K RD1/2J
CS75 100/16 CE-M
CS76 10/16 CE-M
RS32 4.7K
RS33 15K
CS93 10/16 CE-M
CS94 4.7/50 BP
CS38 0.047 CK-K
CS39 220/16 CE-M
LS01 100
CS01 0.047 CK-K
CS02 100/16 CE-M
RS01 1K
RS02 1K
RS03 1K
CS03 680P CK-K
IS01
LA2785
DOLBY PROLOGIC DECORDER
CLOCK
DATA
ENABLE
VCC
L OUT
R OUT
S OUT
C OUT
LIN
RIN
VSS
CS04 10/16
CS05 10/16 CE-M
CS06 10/16 CE-M
CS07 0.47 MYL-K
CS08 47/16 CE-M
CS09 0.1 MYL-K
CS10 0.1 MYL-K
CS11 0.47/50 CE-M
CS12 4.7/50 CE-M
CS13 0.47/50 CE-M
CS14 4.7/50 CE-M
CS15 0.15 MYL-K
CS16 3.3/50 CE-M
CS17 0.15 MYL-K
CS18 0.022 CK-K
CS19 0.047 CK-K
CS20 220/16 CE-M
CS21 10/16 CE-M
CS22 10/16 CE-M
CS23 10/16 CE-M
CS24 10/16 CE-M
CS25 1/50 BP
CS26 1/50 BP
CS27 0.1 MYL-K
CS28 0.1 MYL-K
CS29 0.47/50 CE-M
CS30 4.7/50 CE-M
CS31 0.47/50 CE-M
CS32 4.7/50 CE-M
CS33 0.15 MYL-K
CS34 3.3/50 CE-M
CS35 0.15 MYL-K
CS36 10/16 BP
RS04 100K
RS05 100K
RS06 100K
IS02
BA4558
L/R BUFFER
RS07 100K
CS37 10/16 BP
RS09 100K
RS08 100K
RS13 0
KS12
KS13
PROLOGIC
FRONT AUDIO
RS39 10K
PSU2
20P-JL
GND
CENTER
C-SP OFF
F-SP OFF
GND
HIFI(R)L
HIFI(R)R
VIDEO MUTE
RS11 0
CS40 30P CCCH-J
CS41 30P CCCH-J
RS16 1M
XS01 8MHZ
CS42 220/16 CE-M
CS43 0.033 CK-K
CS44 0.0015 CK-K
CS45 0.033 CK-K
CS46 1/50 CE-M
CS47 10/16 CE-M
CS48 10/16 CE-M
CS49 220/16 CE-M
IS03
LV1010
DOLBY PASSIVE DECORDER
AGND
L MIX OUT
R MIX OUT
SOUT

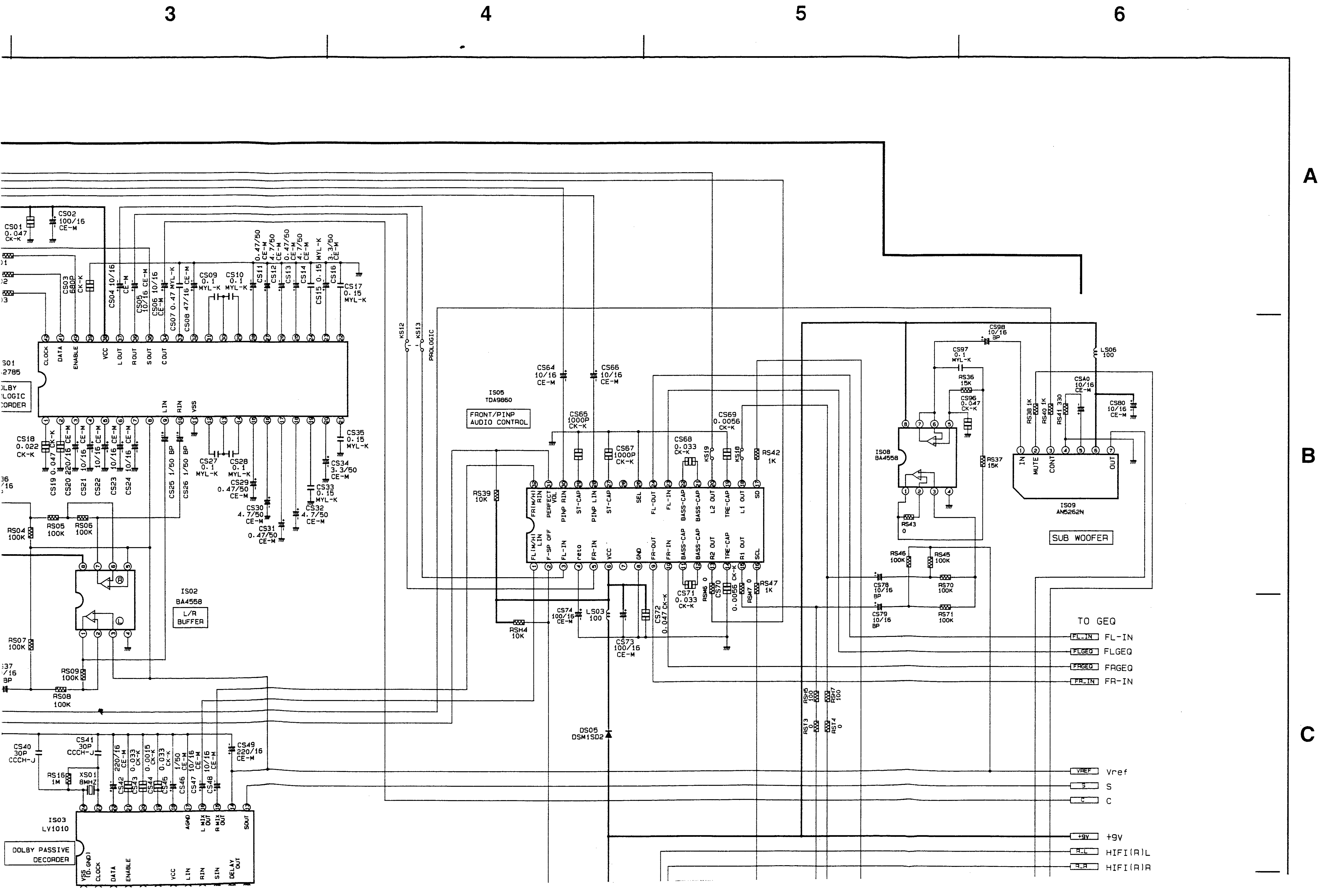
	9	22.6
	10	0
	11	4.2
	12	10.4
QS01	E	0
	B	0
	C	4.1
QS18	E	0
	B	0
	C	7.8
QS20	E	0
	B	0.2
	C	0
QS21	E	0
	B	0.2
	C	0

	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG13	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG14	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG15	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	8.7
	8	9.3
IS04	1	8.7
	2	0
	3	0
	4	0
	5	4.5
	6	4.5
	7	4.5
	8	9.3

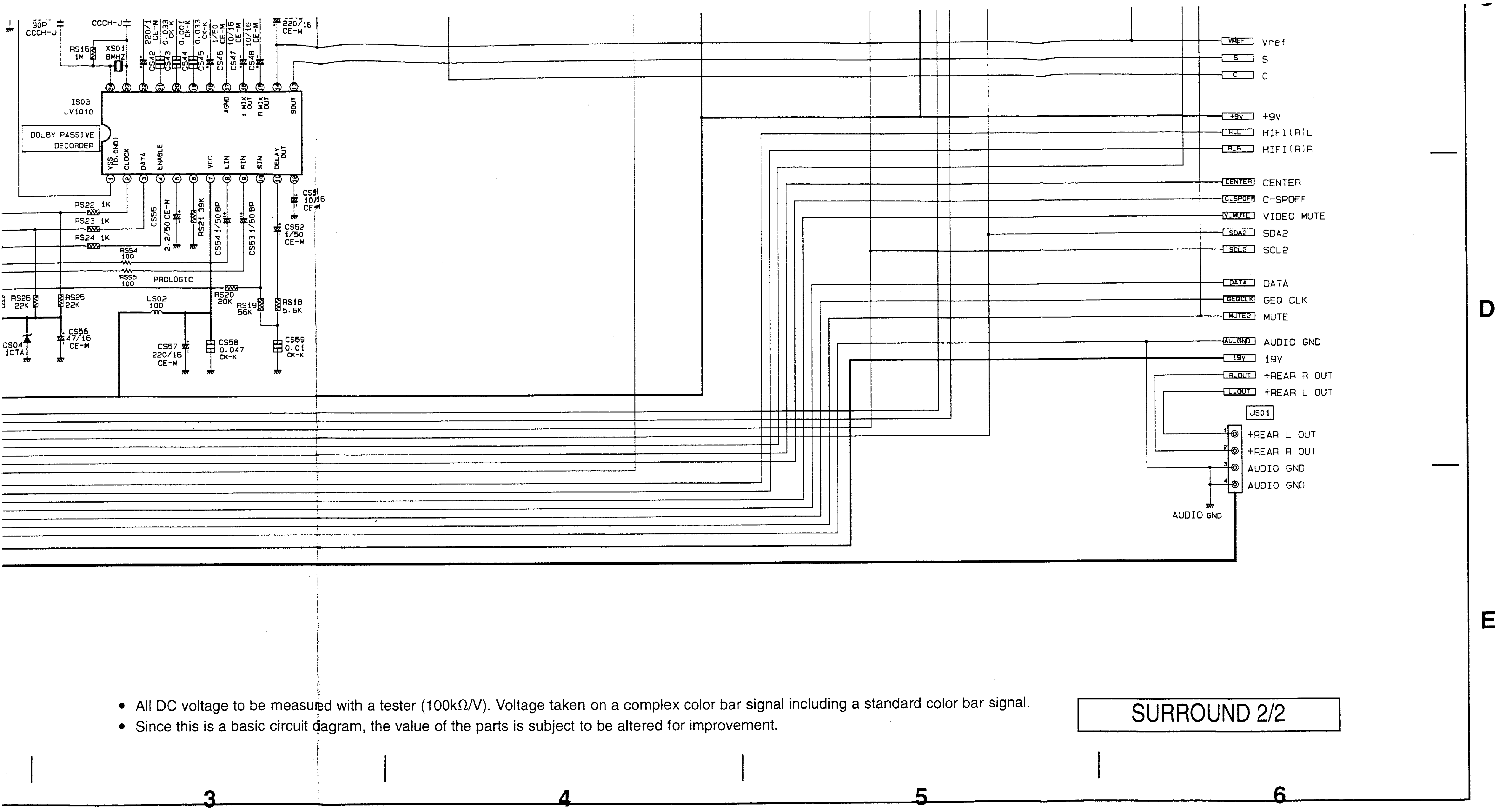

D
E
GND
CENTER
C-SP OFF
F-SP OFF
GND
HIFI(R)L
HIFI(R)R
VIDEO MUTE
CLOCK
DATA
LOAD
GEQ CLK
MUTE2
GND
AUDIO GND
AUDIO GND
19V
RS11 0
RS14 0
RS15 0
DS01 1SS254
DS02 1SS254
DS03 1SS254
CS40 30P CCCH-J
30P CCCH-J
RS16 1M
XS01 8MHZ
CS42 220/16 CE-M
CS43 0.033 CK-K
CS44 0.0015 CK-K
CS45 0.033 CK-K
CS46 1/50 CE-M
CS47 10/16 CE-M
CS48 10/16 CE-M
CS49 220/16 CE-M
IS03 LV1010
DOLBY PASSIVE DECORDER
VSS (D.GND)
CLOCK
DATA
ENABLE
VCC
LIN
RIN
SIN
DELAY OUT
AGND
L MIX OUT
R MIX OUT
SOUT
CS51 10/16 CE-M
CS52 1/50 CE-M
RS22 1K
RS23 1K
RS24 1K
CS55 2.2/50 CE-M
RS21 39K
CS54 1/50 BP
CS53 1/50 BP
RSS4 100
RSS5 100
PROLOGIC
RS27 22K
RS26 22K
RS25 22K
RS28 560 RD1/8J
DS04 MTZJ5.1CTA
CS56 47/16 CE-M
LS02 100
CS57 220/16 CE-M
CS58 0.047 CK-K
RS20 20K
RS19 56K
RS18 5.6K
CS59 0.01 CK-K
1
2
3

- All DC voltage to be measured with a tester (100kΩ/V). Voltage ta
- Since this is a basic circuit dagram, the value of the parts is subje

BASIC CIRCUIT DIAGRAM


3
4
5
6
A
B
C
IS01
DOLBY PROLOGIC DECORDER
CLOCK
DATA
ENABLE
VCC
L OUT
R OUT
S OUT
C OUT
LIN
RIN
VSS
IS02
BA4558
L/R BUFFER
IS03
LV1010
DOLBY PASSIVE DECORDER
XS01 8MHZ
IS05
TDA9860
FRONT/PINP AUDIO CONTROL
PROLOGIC
IS08
BA4558
IS09
AN5262N
SUB WOOFER
IN
MUTE
CONT
OUT
DS05
DSM1SD2
LS03 100
LS06 100
TO GEQ
FL-IN
FLGEQ
FRGEQ
FR-IN
Vref
S
C
+9V
HIFI(R)L
HIFI(R)R

Circuit No.	Pin No.	Voltage DC
IG01	1	9.3
	2	4.7
	3	4.7
	4	4.7
	5	4.7
	6	4.7
	7	4.7
	8	4.7
	9	4.7
	10	4.7
	11	0
	12	0
	13	0
	14	0
	15	5.3
	16	5
	17	0
	18	0
	19	4.7
	20	4.7
	21	4.7
	22	4.7
	23	4.7
	24	4.7
	25	4.7
	26	4.7
	27	4.7
	28	0
IG02	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG03	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IGO4	1	4.7
	2	4.7
	3	4.7
	4	0


IS03
LV1010
DOLBY PASSIVE DECORDER
XS01 8MHZ
RS16 1M
CCCH-J
30P
VSS (D.GND)
CLOCK
DATA
ENABLE
VCC
LIN
RIN
SIN
DELAY OUT
AGND
L MIX OUT
R MIX OUT
SOUT
CS42 220/1 CE-M
CS43 0.033 CK-K
CS44 0.001 CK-K
CS45 0.033 CK-K
CS46 1/50 CE-M
CS47 10/16 CE-M
CS48 10/16 CE-M
220/16 CE-M
RS22 1K
RS23 1K
RS24 1K
RS54 100
RS55 100
PROLOGIC
CS55 2.2/50 CE-M
RS21 39K
CS54 1/50 BP
CS53 1/50 BP
CS52 1/50 CE-M
CS51 10/16 CE-M
RS26 22K
RS25 22K
DS04 1CTA
CS56 47/16 CE-M
LS02 100
CS57 220/16 CE-M
RS20 20K
RS19 56K
RS18 5.6K
CS58 0.047 CK-K
CS59 0.01 CK-K
VREF
Vref
S
C
+9V
R-L
HIFI(R)L
R-R
HIFI(R)R
CENTER
C-SPOFF
V-MUTE
VIDEO MUTE
SDA2
SCL2
DATA
GEQCLK
GEQ CLK
MUTE2
MUTE
AU-GND
AUDIO GND
19V
R-OUT
+REAR R OUT
L-OUT
+REAR L OUT
JS01
+REAR L OUT
+REAR R OUT
AUDIO GND
AUDIO GND
AUDIO GND
D
E
3
4
5
6

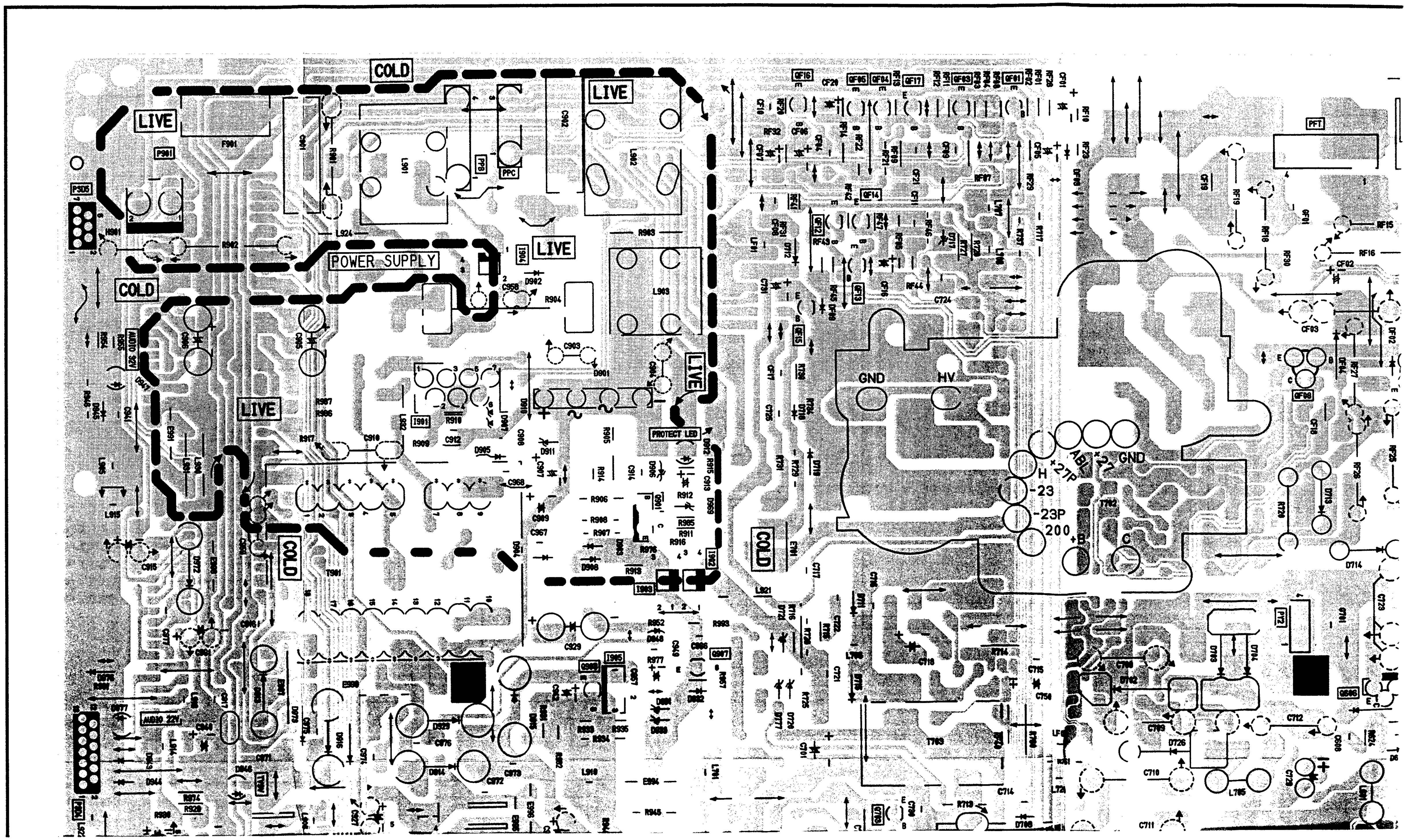
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit dagram, the value of the parts is subject to be altered for improvement.

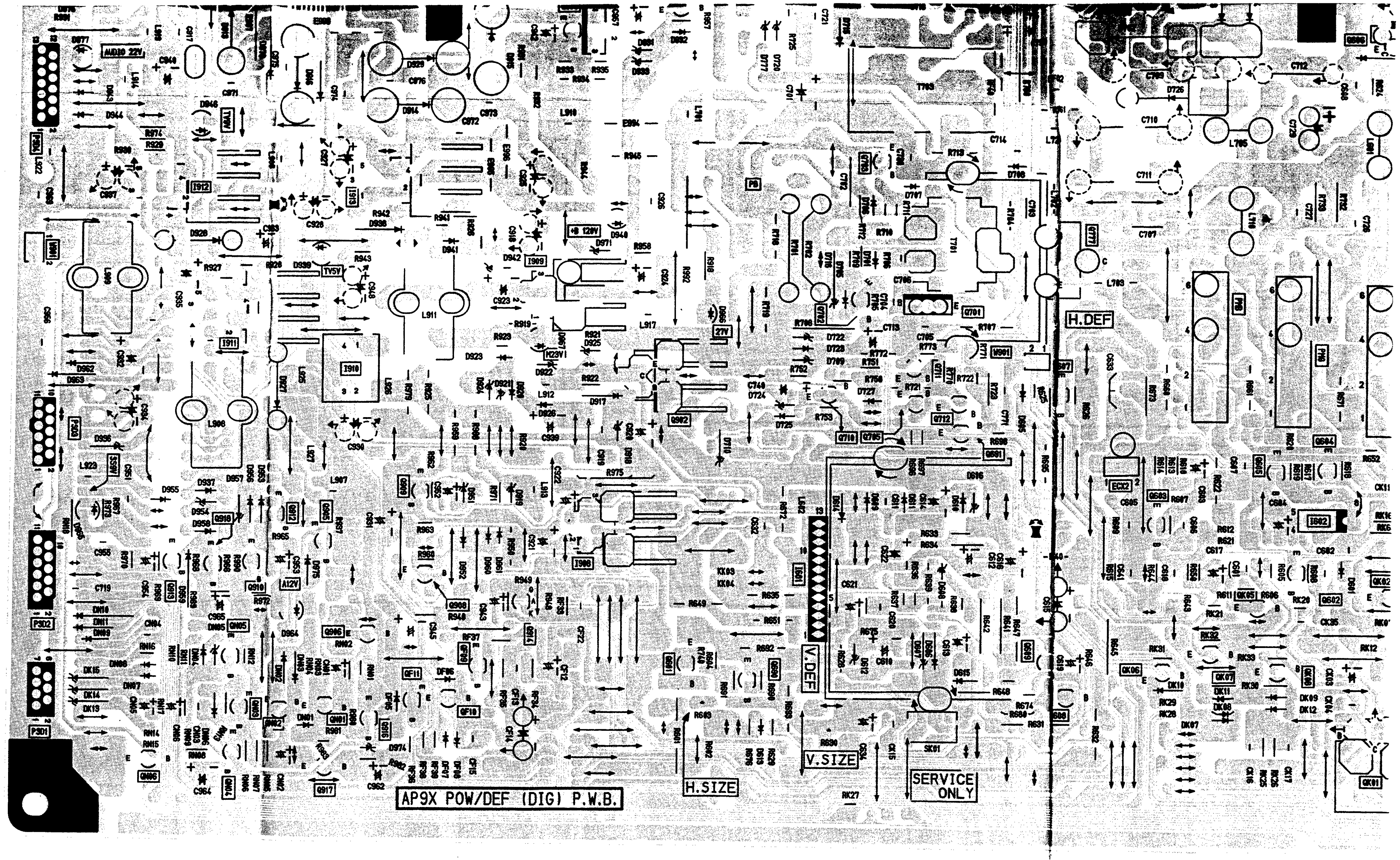
SURROUND 2/2

	5	4.7
	6	4.7
	7	4.7
	8	9.3
IGO4	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG05	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG06	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG07	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG08	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3
IG09	1	4.7
	2	4.7
	3	4.7
	4	0
	5	4.7
	6	4.7
	7	4.7
	8	9.3

PRINTED CIRCUIT BOARD

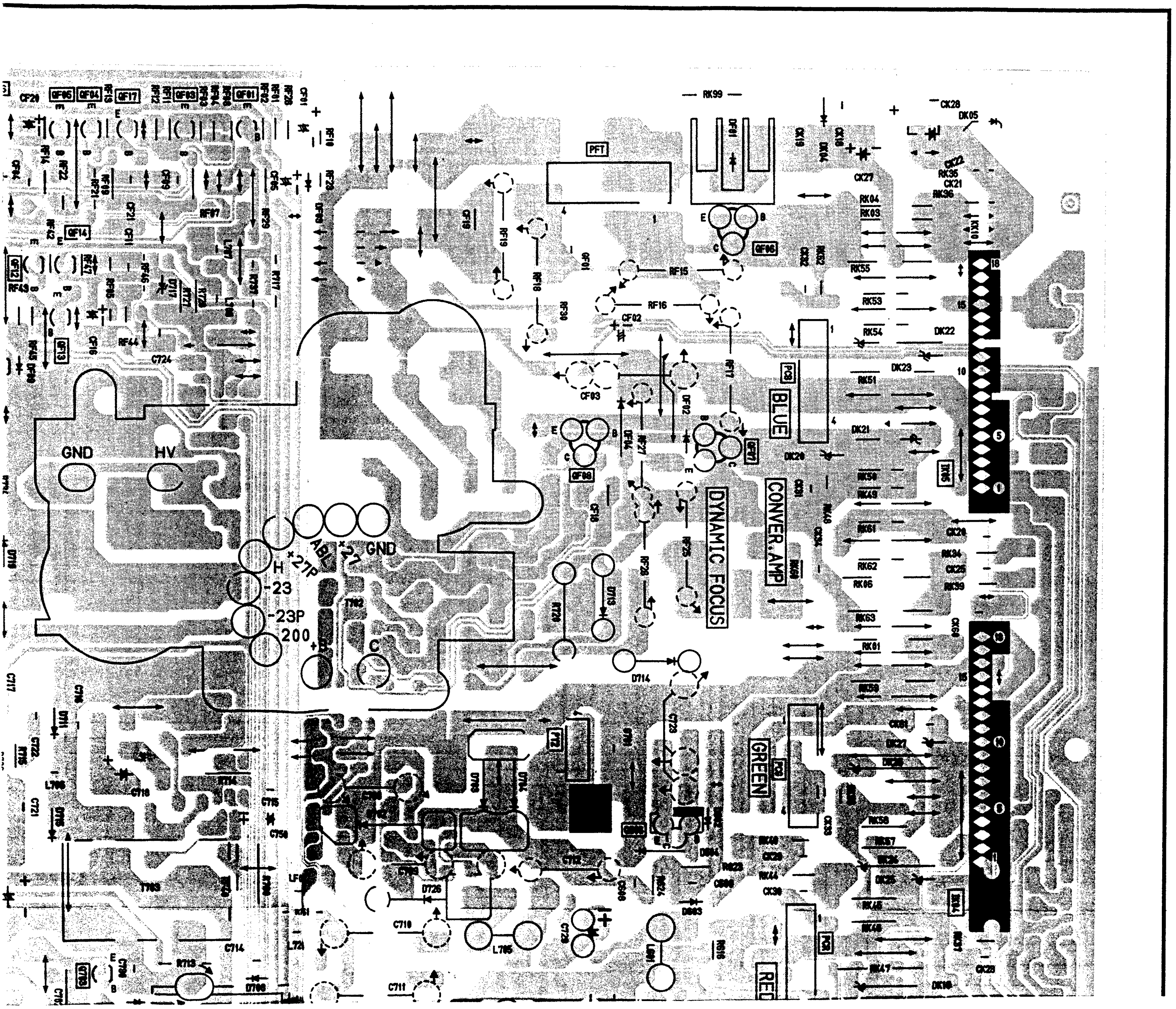
POWER / DEFLECTION P.W.B.

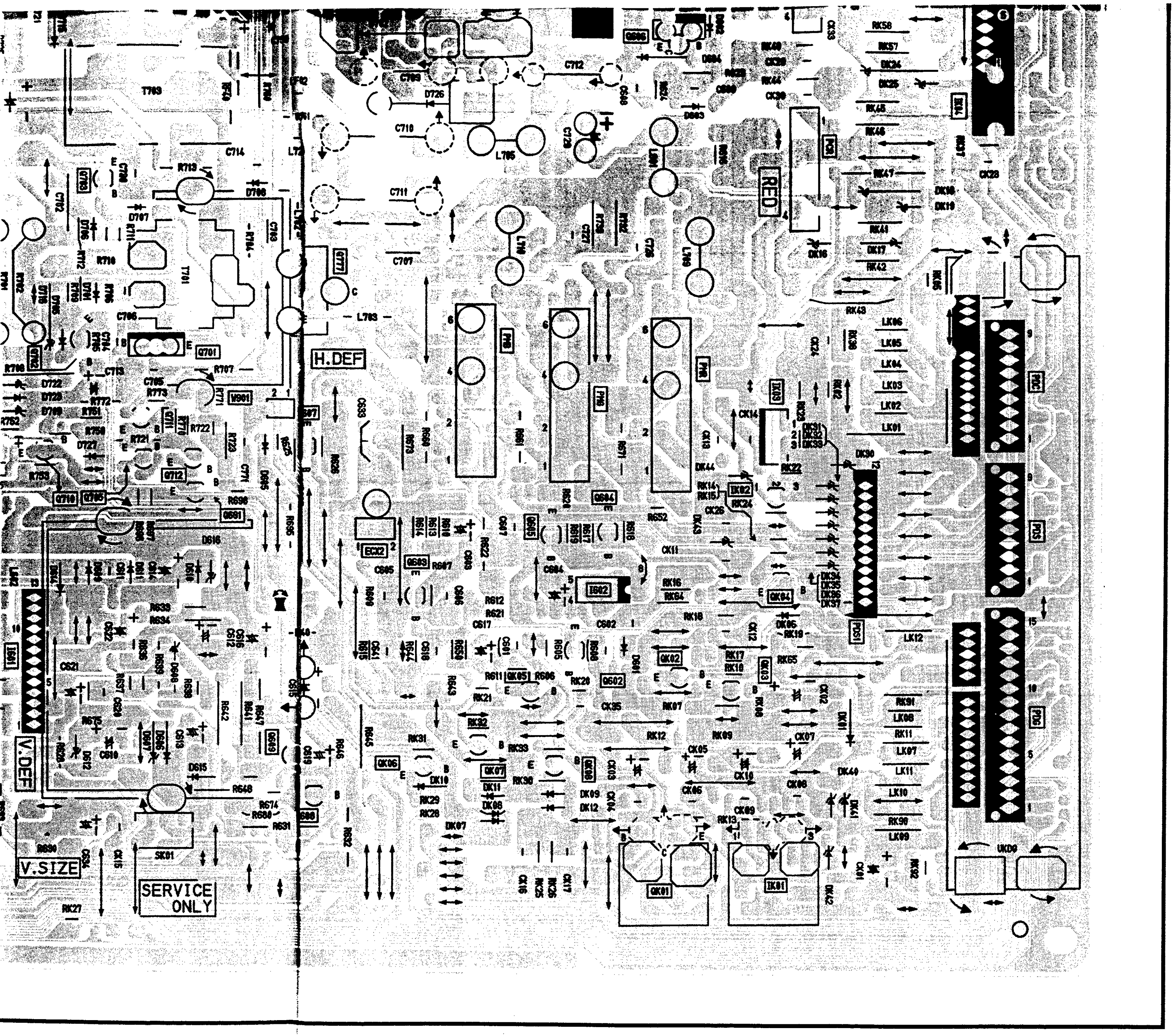

COLD
LIVE
LIVE
COLD
POWER SUPPLY
LIVE
LIVE
LIVE
COLD
COLD
PROTECT LED
AUDIO 32V
AUDIO 22V
GND
HV
ABL
GND
H
-23
-23P
200
+B
C
F901
L901
L902
L903
T901
T703
PFT


H.DEF
V.DEF
V.SIZE
H.SIZE
SERVICE ONLY
+B 120V
AUDIO 22V
TV5V
M23V
27V
A12V
P302
P301
P303
P304

AP9X POW/DEF (DIG) P.W.B.

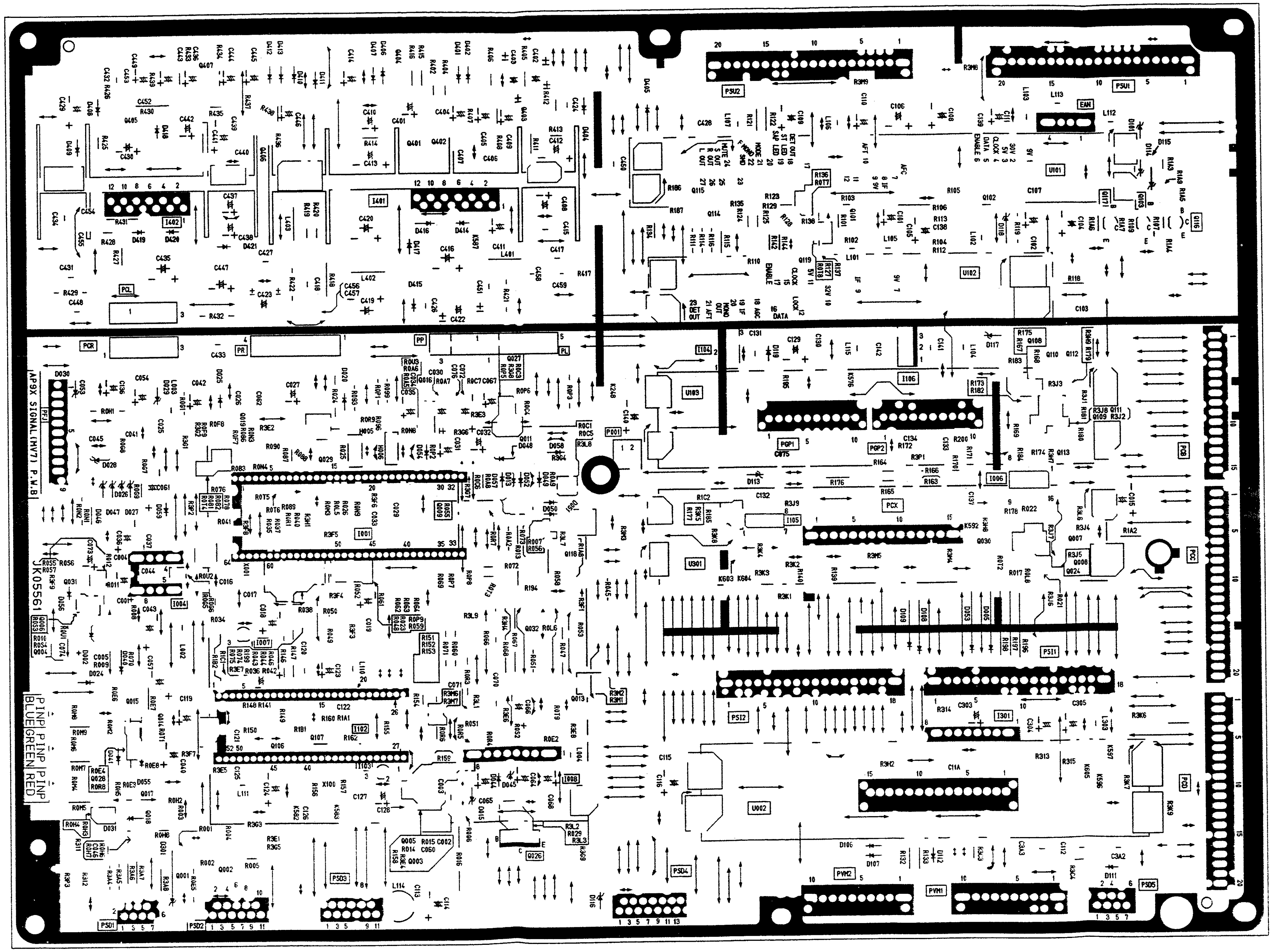
ED CIRCUIT BOARD


GND
HV
ABL
GND
×21P
×21
H
-23
-23P
200
C
DYNAMIC FOCUS
CONVER.AMP
BLUE
GREEN
RED
PFT
P8
RK99
CF03
CF02
RF15
RF16
RF17
RF18
RF19
QF05
QF06
QF07
DK22
DK23
DK21
DK20
RK55
RK53
RK54
RK51
RK50
RK49
RK61
RK62
RK63
RK58
RK57
RK47
CK27
CK28
DK05
C724
C714
C711
C710
D714
D726
D709
L705
T703
D713
CF16
RF38
RF37
RF43
RF44
QF13
QF14
CF20
C717
C721
C750
C715
C716
E
B
C
18
15
10
5
1


H.DEF
RED
V.DEF
V.SIZE
SERVICE ONLY
T703
T701
L705
L703
C707
C710
C711
C712
C714
D726
Q701
Q712
P501
P502
P503
P504
P505
SK01
QK01
IK01
IK02
IC02
UKD9

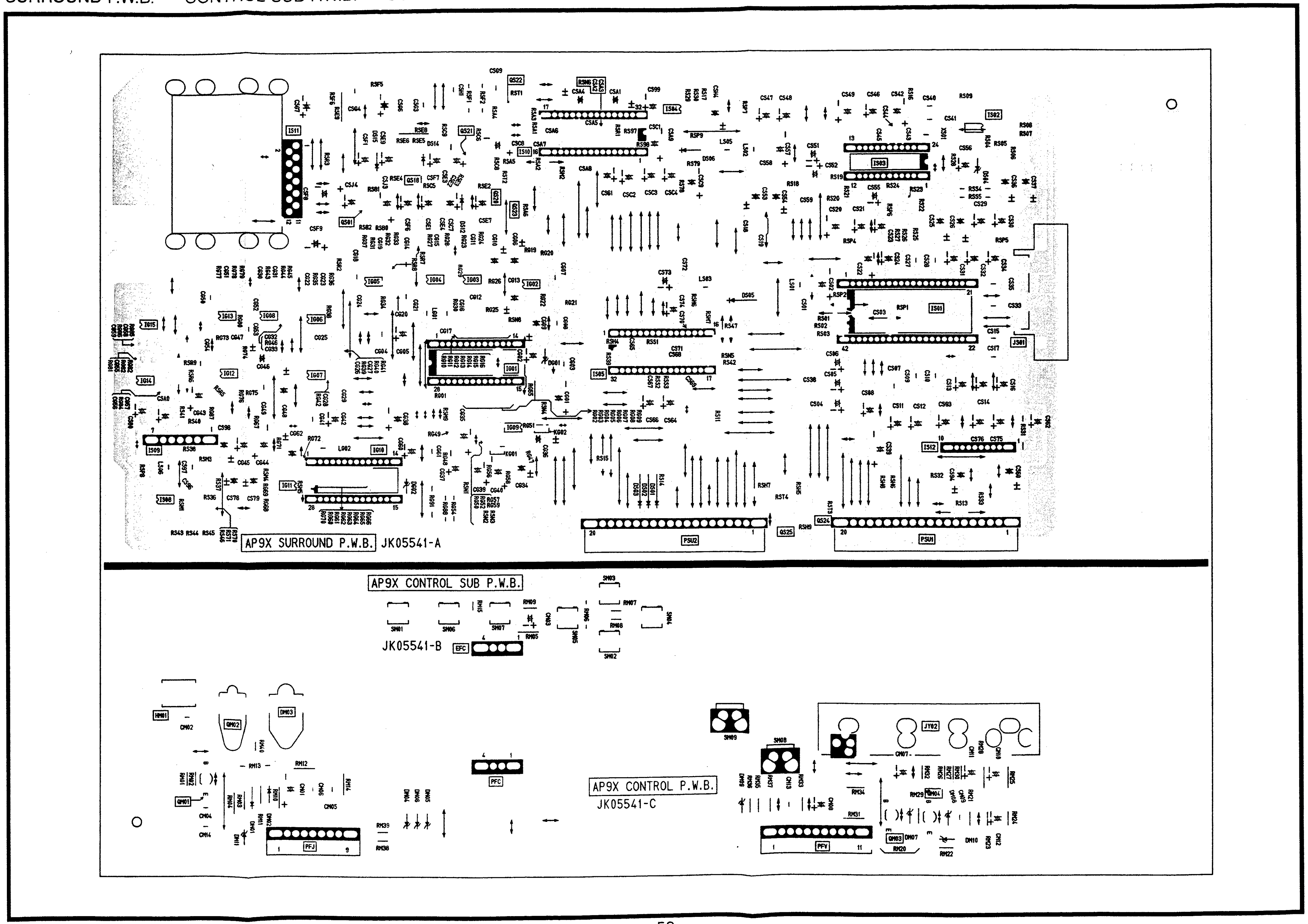
PRINTED CIRCUIT BOARD

SIGNAL P.W.B.


AP9X SIGNAL(HV7) P.W.B
JK05561
PINP PINP PINP
BLUE GREEN RED
PSU2
PSU1
PSD1
PSD2
PSD3
PSD4
PSD5
PVM1
PVM2
PCR
PCL
PR
PP
PL
PCB
PCC
PCD
PSI1
PSI2
PGP1
PGP2
PCX
U001
U002
U101
U102
U103
U301
I001
I004
I007
I102
I104
I106
I301
I401
I402
I006
I005
I008
I105
P001

PRINTED CIRCUIT BOARD

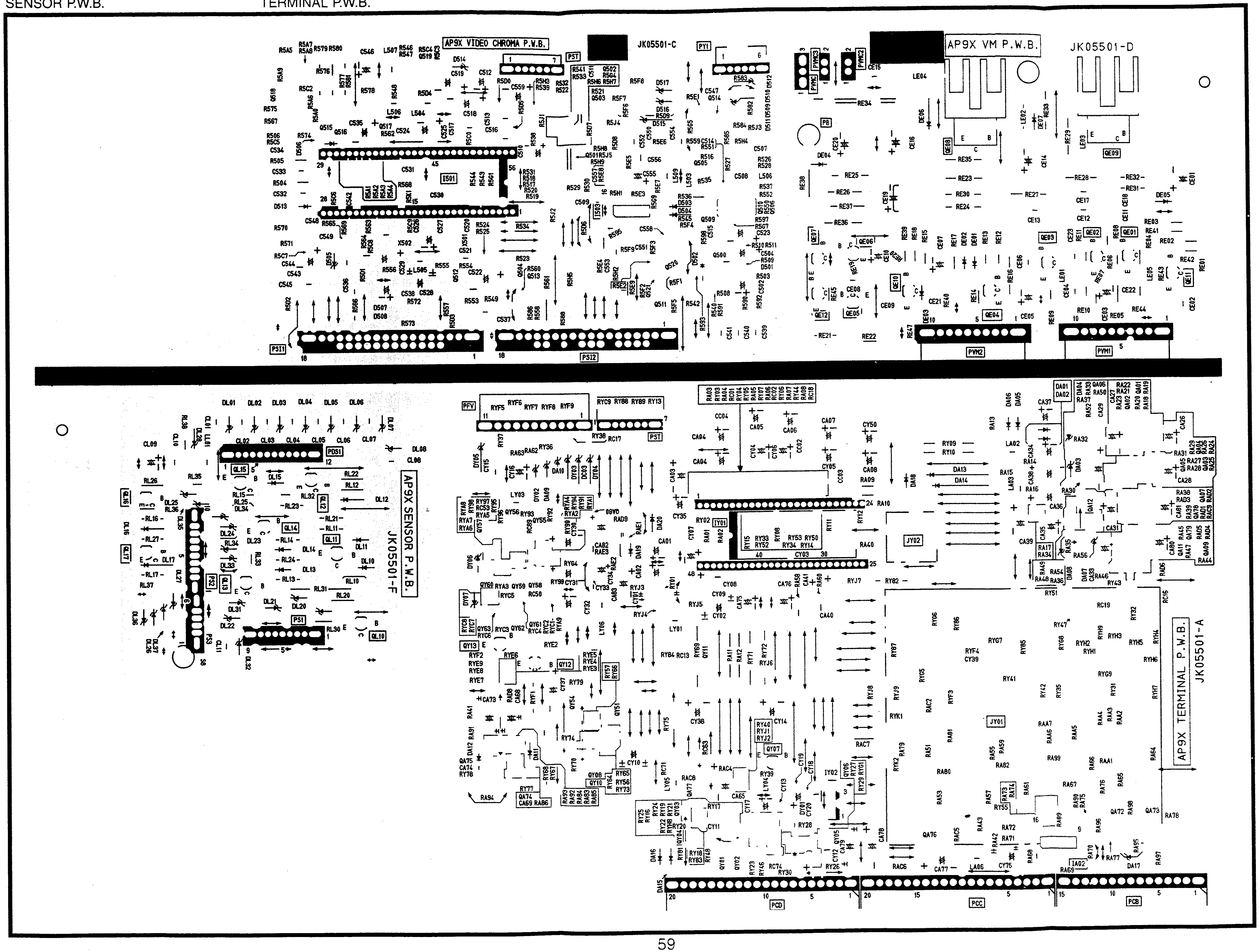
SURROUND P.W.B.　CONTROL SUB P.W.B.　CONTROL P.W.B.


AP9X SURROUND P.W.B.
JK05541-A
AP9X CONTROL SUB P.W.B.
JK05541-B
AP9X CONTROL P.W.B.
JK05541-C
PSU1
PSU2
PFJ
PFV
PFC
EFC
JY02

VIDEO CHROMA P.W.B.
SENSOR P.W.B.

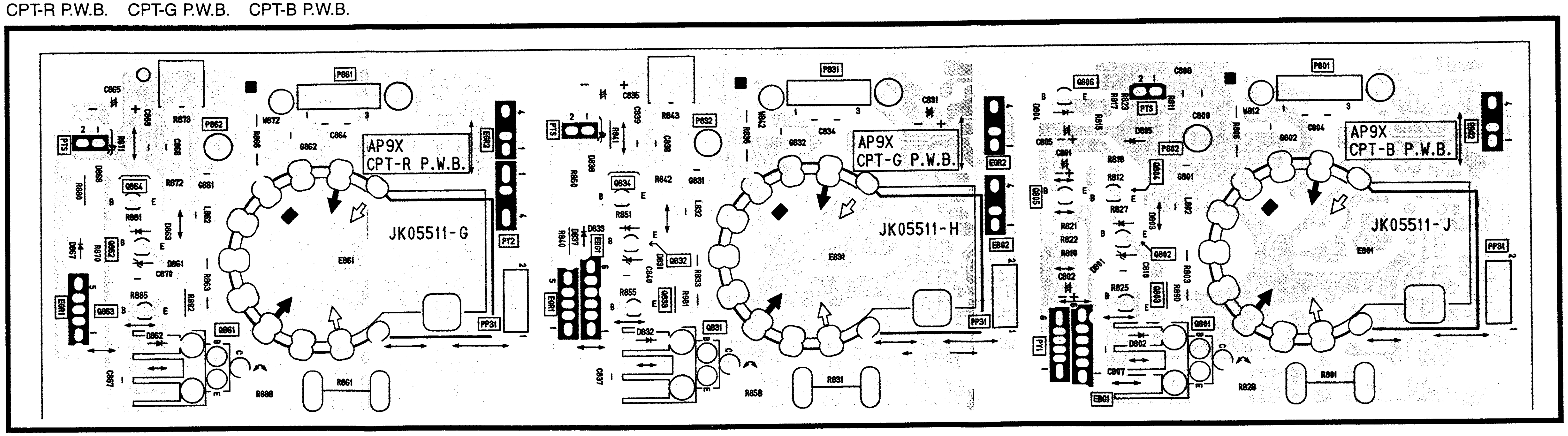
VM P.W.B.
TERMINAL P.W.B.

PRINTED CIRCUIT BOARD

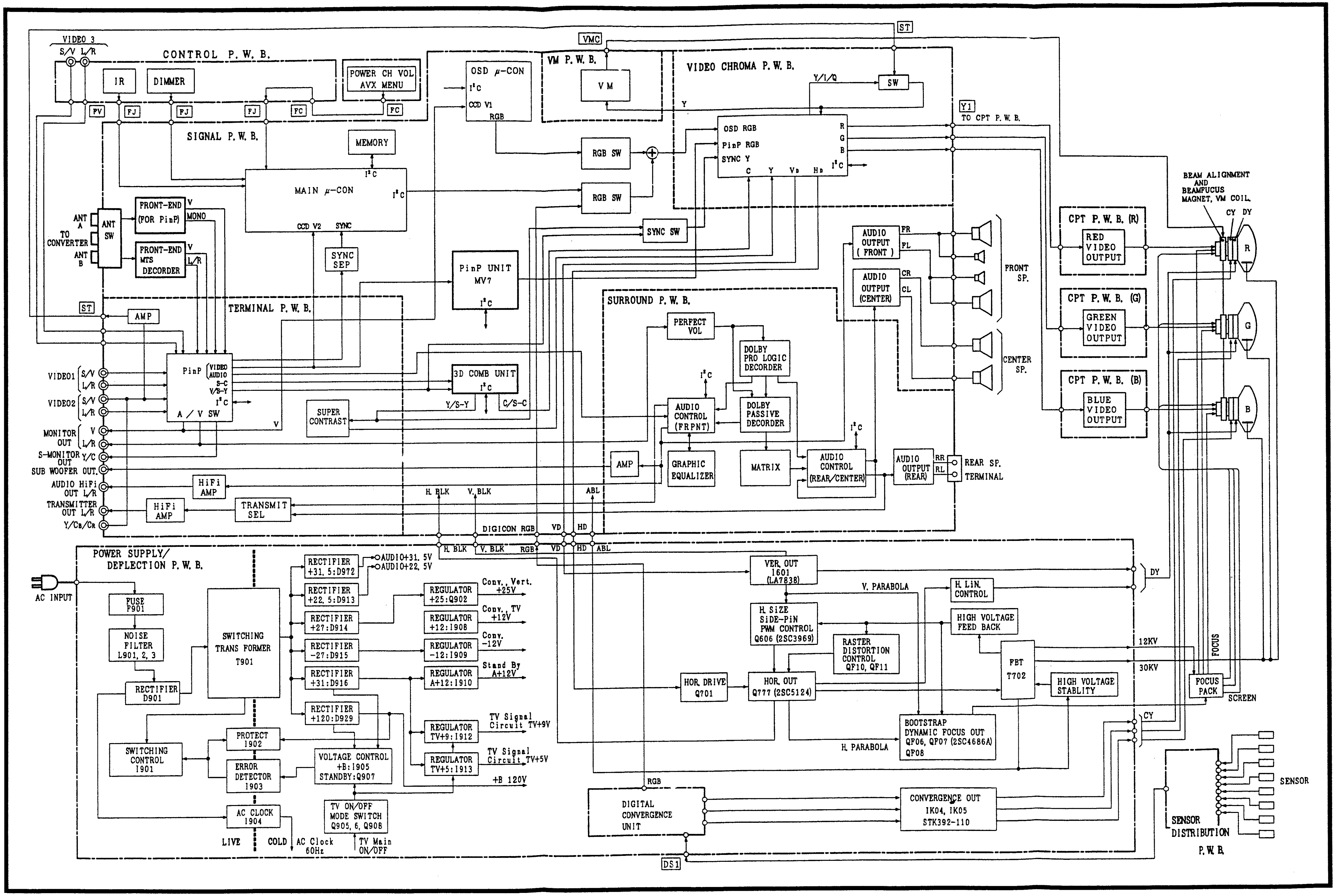

AP9X VIDEO CHROMA P.W.B.
JK05501-C
AP9X VM P.W.B.
JK05501-D
AP9X SENSOR P.W.B.
JK05501-F
AP9X TERMINAL P.W.B.
JK05501-A
PST
PY1
PSI1
PSI2
PVM2
PVM1
PB
PFV
PST
PDS1
PSI
PCD
PCC
PCB
JY01
JY02
IY01

PRINTED CIRCUIT BOARD

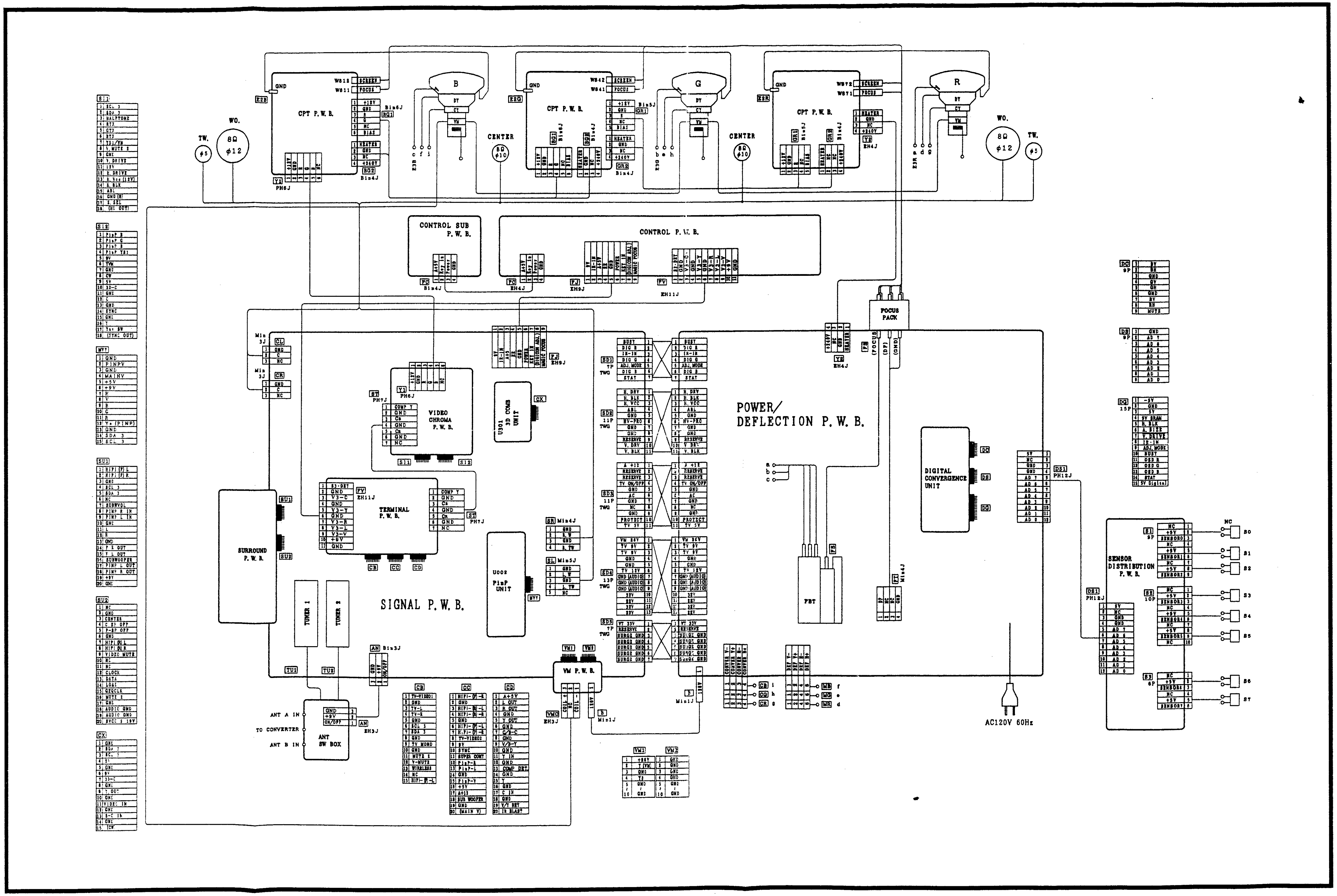
CPT-R P.W.B. CPT-G P.W.B. CPT-B P.W.B.


AP9X
CPT-R P.W.B.
JK05511-G
AP9X
CPT-G P.W.B.
JK05511-H
AP9X
CPT-B P.W.B.
JK05511-J

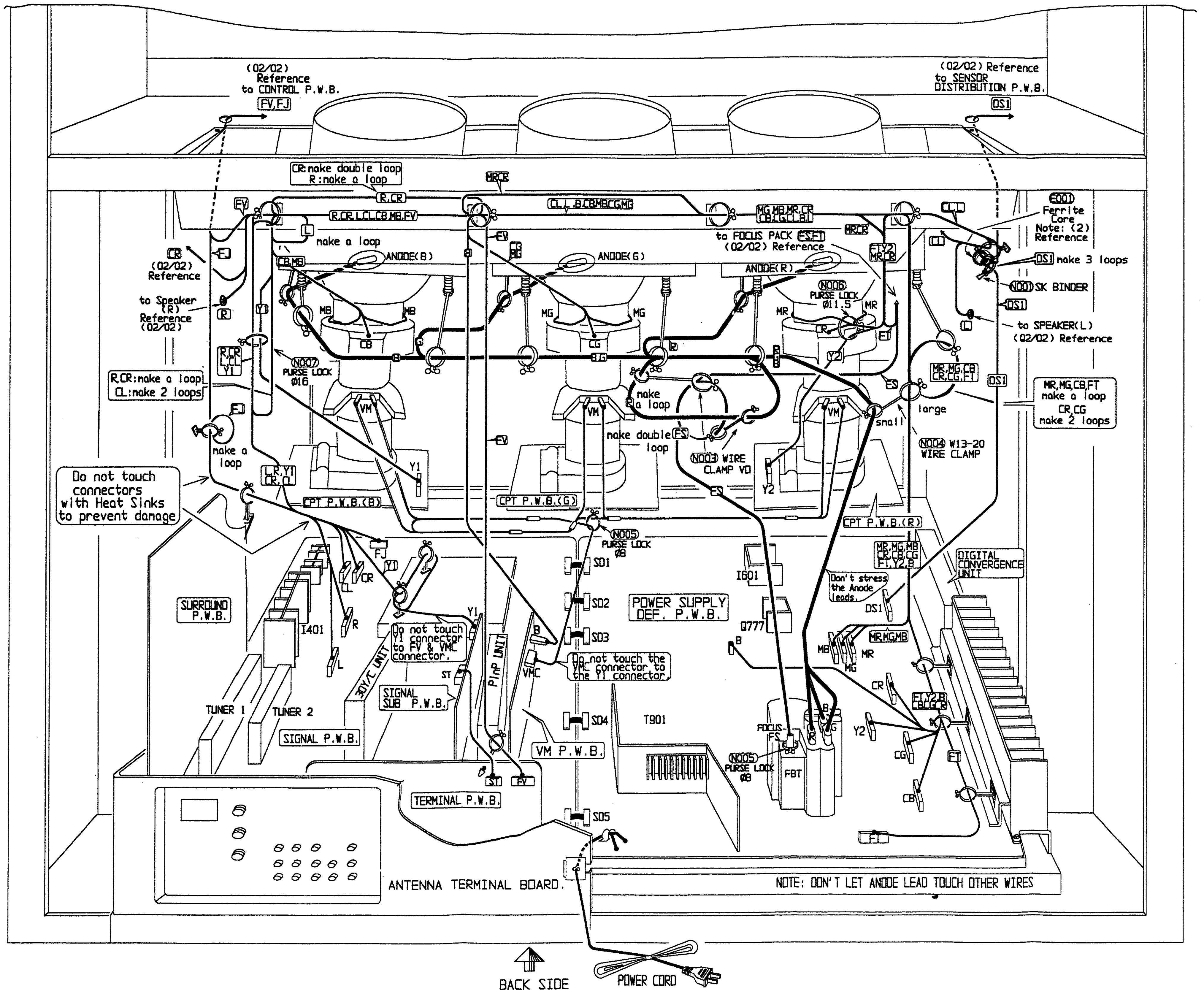
BLOCK DIAGRAM


VIDEO 3
S/V L/R
CONTROL P. W. B.
IR
DIMMER
POWER CH VOL
AVX MENU
PV
FJ
FJ
FJ
FC
FC
SIGNAL P. W. B.
MEMORY
I²C
MAIN μ-CON
I²C
CCD V2
SYNC
OSD μ-CON
I²C
CCD V1
RGB
VMC
VM P. W. B.
VM
ST
VIDEO CHROMA P. W. B.
Y/I/Q
SW
Y
Y1
TO CPT P. W. B.
RGB SW
RGB SW
OSD RGB
PinP RGB
SYNC Y
R
G
B
I²C
C
Y
VD
HD
SYNC SW
ANT A
TO CONVERTER
ANT B
ANT SW
FRONT-END (FOR PinP)
V
MONO
FRONT-END MTS DECORDER
V
L/R
SYNC SEP
PinP UNIT MV7
I²C
ST
AMP
TERMINAL P. W. B.
VIDEO1 S/V L/R
VIDEO2 S/V L/R
PinP
VIDEO
AUDIO
S-C
V/S-Y
I²C
A / V SW
3D COMB UNIT
I²C
Y/S-Y
C/S-C
SUPER CONTRAST
V
MONITOR OUT V L/R
S-MONITOR OUT Y/C
SUB WOOFER OUT
AUDIO HiFi OUT L/R
TRANSMITTER OUT L/R
Y/CB/CR
HiFi AMP
HiFi AMP
TRANSMIT SEL
H. BLK
V. BLK
ABL
DIGICON RGB
VD
HD
SURROUND P. W. B.
PERFECT VOL
DOLBY PRO LOGIC DECORDER
I²C
AUDIO CONTROL (FRPNT)
DOLBY PASSIVE DECORDER
AMP
GRAPHIC EQUALIZER
MATRIX
AUDIO CONTROL (REAR/CENTER)
I²C
AUDIO OUTPUT (REAR)
RR
RL
REAR SP. TERMINAL
AUDIO OUTPUT (FRONT)
FR
FL
AUDIO OUTPUT (CENTER)
CR
CL
FRONT SP.
CENTER SP.
BEAM ALIGNMENT AND BEAMFUCUS MAGNET, VM COIL
CY
DY
CPT P. W. B. (R)
RED VIDEO OUTPUT
R
CPT P. W. B. (G)
GREEN VIDEO OUTPUT
G
CPT P. W. B. (B)
BLUE VIDEO OUTPUT
B
AC INPUT
POWER SUPPLY/ DEFLECTION P. W. B.
H. BLK
V. BLK
RGB
VD
HD
ABL
FUSE F901
NOISE FILTER L901, 2, 3
RECTIFIER D901
SWITCHING TRANS FORMER T901
SWITCHING CONTROL I901
PROTECT I902
ERROR DETECTOR I903
AC CLOCK I904
LIVE
COLD
AC Clock 60Hz
RECTIFIER +31. 5:D972
AUDIO+31. 5V
AUDIO+22. 5V
RECTIFIER +22. 5:D913
RECTIFIER +27:D914
RECTIFIER -27:D915
RECTIFIER +31:D916
RECTIFIER +120:D929
REGULATOR +25:Q902
Conv., Vert. +25V
REGULATOR +12:I908
Conv., TV +12V
REGULATOR -12:I909
Conv. -12V
REGULATOR A+12:I910
Stand By A+12V
REGULATOR TV+9:I912
TV Signal Circuit TV+9V
REGULATOR TV+5:I913
TV Signal Circuit TV+5V
VOLTAGE CONTROL +B:I905 STANDBY:Q907
+B 120V
TV ON/OFF MODE SWITCH Q905, 6, Q908
TV Main ON/OFF
VER. OUT I601 (LA7838)
V. PARABOLA
H. LIN. CONTROL
DY
H. SiZE SiDE-PiN PWM CONTROL Q606 (2SC3969)
RASTER DISTORTION CONTROL QF10, QF11
HIGH VOLTAGE FEED BACK
FBT T702
12KV
30KV
FOCUS
HOR. DRIVE Q701
HOR. OUT Q777 (2SC5124)
HIGH VOLTAGE STABLITY
FOCUS PACK
SCREEN
BOOTSTRAP DYNAMIC FOCUS OUT QF06, QF07 (2SC4686A) QF08
H. PARABOLA
CY
RGB
DIGITAL CONVERGENCE UNIT
CONVERGENCE OUT IK04, IK05 STK392-110
DS1
SENSOR
SENSOR DISTRIBUTION P. W. B.

WIRING CONNECTION DIAGRAM


B
G
R
CPT P. W. B.
WO.
8Ω
φ12
TW.
φ5
CENTER
8Ω
φ10
CONTROL SUB P. W. B.
CONTROL P. W. B.
FOCUS PACK
SIGNAL P. W. B.
POWER/ DEFLECTION P. W. B.
VIDEO CHROMA P. W. B.
U501 3D COMB UNIT
TERMINAL P. W. B.
SURROUND P. W. B.
TUNER 1
TUNER 2
U002 PinP UNIT
VM P. W. B.
FBT
DIGITAL CONVERGENCE UNIT
SENSOR DISTRIBUTION P. W. B.
ANT A IN
TO CONVERTER
ANT B IN
ANT SW BOX
AC120V 60Hz

WIRING DRAWING



Do not touch connectors with Heat Sinks to prevent damage

Do not touch Y1 connector to FV & VMC connector.

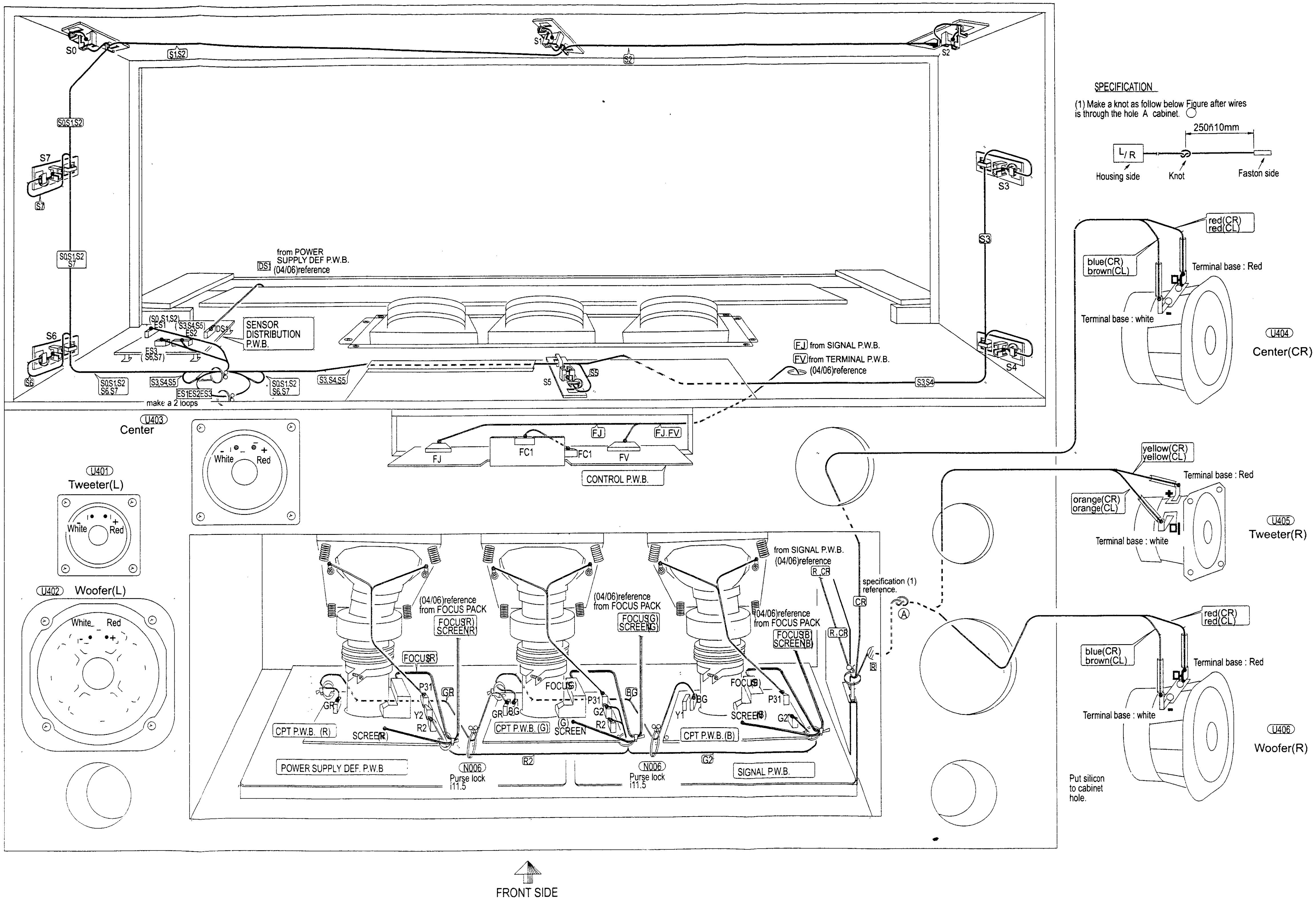
Do not touch the VMC connector to the Y1 connector.

Don't stress the Anode leads.

NOTE: DON'T LET ANODE LEAD TOUCH OTHER WIRES

(02/02) Reference to CONTROL P.W.B.
FV,FJ
(02/02) Reference to SENSOR DISTRIBUTION P.W.B.
DS1
CR:make double loop
R:make a loop
R,CR
MRCR
CL,L,B,CB,MB,CG,MG
R,CR,L,CL,CB,MB,FV
MG,MB,MR,CR
CB,CG,CL,B,L
FV
FJ
CR
(02/02) Reference
to Speaker (R) Reference (02/02)
R
L
make a loop
ANODE(B)
ANODE(G)
ANODE(R)
CB,MB
CG
MG
to FOCUS PACK FS,FT
(02/02) Reference
MRCR
FT,Y2
MR,CR
CL,L
E001
Ferrite Core
Note: (2) Reference
DS1 make 3 loops
N001 SK BINDER
DS1
to SPEAKER(L)
(02/02) Reference
N006
PURSE LOCK
Ø11.5
MR
MB
CB
CG
B
G
B,G
Y1
R,CR
L,CL
Y1
N007
PURSE LOCK
Ø16
R,CR:make a loop
CL:make 2 loops
FJ
make a loop
VM
make a loop
make double loop
FS
N003 WIRE CLAMP VD
FT
Y2
MR,MG,CB
CR,CG,FT
DS1
MR,MG,CB,FT make a loop
CR,CG make 2 loops
large
small
ES
N004 W13-20 WIRE CLAMP
L,R,Y1
CR,CL
CPT P.W.B.(B)
CPT P.W.B.(G)
CPT P.W.B.(R)
N005
PURSE LOCK
Ø8
FJ
Y1
CL
CR
R
L
SURROUND P.W.B.
I401
TUNER 1
TUNER 2
SIGNAL P.W.B.
3DY/C UNIT
SIGNAL SUB P.W.B.
ST
PinP UNIT
B
VMC
VM P.W.B.
ST
FV
TERMINAL P.W.B.
SD1
SD2
SD3
SD4
SD5
POWER SUPPLY DEF. P.W.B.
I601
Q777
B
T901
FOCUS
FS
N005
PURSE LOCK
Ø8
FBT
R
B
G
MR,MG,MB
CR,CB,CG
FT,Y2,B
DIGITAL CONVERGENCE UNIT
DS1
MR,MG,MB
MB
MG
MR
CR
FT,Y2,B
CB,CG,CR
Y2
CG
CB
FT
ANTENNA TERMINAL BOARD.
BACK SIDE
POWER CORD

WIRING DRAWING



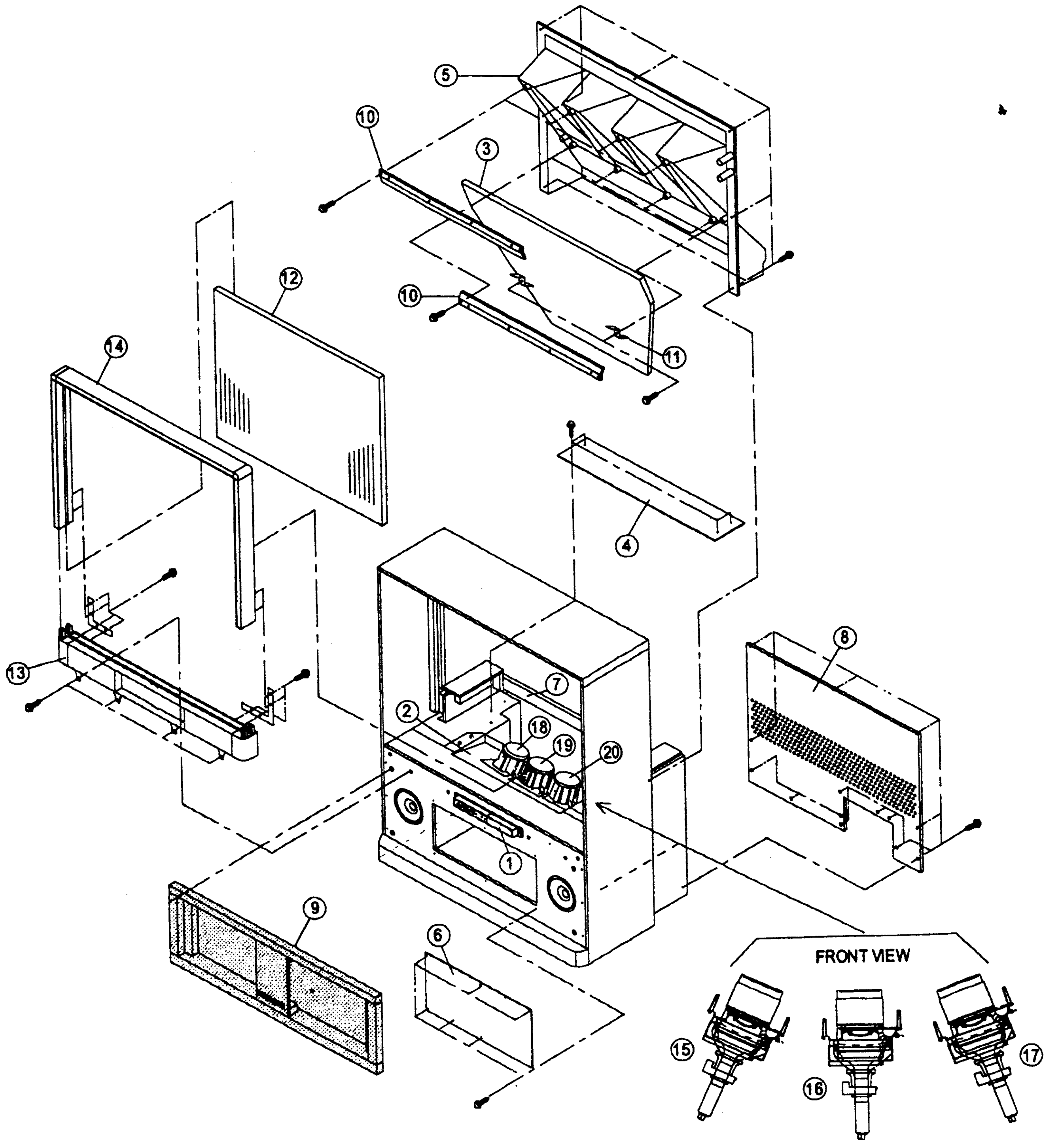
SPECIFICATION

(1) Make a knot as follow below Figure after wires is through the hole A cabinet. ○

Put silicon to cabinet hole.

250ñ10mm
L/R
Housing side
Knot
Faston side
S0
S1
S2
S1S2
S2
S0S1S2
S7
S0S1S2 S7
S3
S6
S4
S5
S3S4
S3S4S5
S0S1S2 S6S7
ES1ES2ES3
make a 2 loops
from POWER SUPPLY DEF P.W.B.
DS (04/06)reference
(S0,S1,S2) ES1
(S3,S4,S5) ES2
DS1
ES3 (S6,S7)
SENSOR DISTRIBUTION P.W.B.
FJ from SIGNAL P.W.B.
FV from TERMINAL P.W.B.
(04/06)reference
FJ
FJ FV
FC1
FV
CONTROL P.W.B.
U403
Center
White
Red
U401
Tweeter(L)
U402
Woofer(L)
from SIGNAL P.W.B. (04/06)reference
R CR
CR
R CR
R
specification (1) reference.
Ⓐ
(04/06)reference from FOCUS PACK
FOCUS(R) SCREEN(R)
FOCUS(G) SCREEN(G)
FOCUS(B) SCREEN(B)
FOCUS(R)
GR
P31
Y2
R2
CPT P.W.B. (R)
SCREEN(R)
GR
BG
G2
FOCUS(G)
CPT P.W.B. (G)
(G) SCREEN
BG
Y1
FOCUS(B)
SCREEN(B)
CPT P.W.B. (B)
POWER SUPPLY DEF. P.W.B
N006
Purse lock i11.5
R2
G2
SIGNAL P.W.B.
red(CR) red(CL)
blue(CR) brown(CL)
Terminal base : Red
Terminal base : white
U404
Center(CR)
yellow(CR) yellow(CL)
orange(CR) orange(CL)
U405
Tweeter(R)
U406
Woofer(R)
FRONT SIDE

EXPLODED VIEW


5
10
3
12
10
11
14
4
13
7
2
18
19
20
8
1
9
6
FRONT VIEW
15
16
17

NOTE: Refer to page 94 for description and parts list. Some parts may appear different than those shown in the Exploded View. When ordering, refer to the Replacement Parts List for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:

CD: Ceramic Disc
PF: Polyester Film
EL: Electrolytic
PP: Polypropylene
PR: Paper
TA: Tantalum
TM: Trimmer
MC: Mylar

Resistors:

CF: Carbon Film
CC: Carbon Composition
MF: Metal Oxide Film
VR: Variable Resistor
WW: Wire Wound
FR: Fuse Resistor
MG: Metal Glaze

Semiconductors:

TR: Transistor
DI: Diode
ZD: Zener Diode
VA: Varistor
TH: Thermistor
IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C002	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C003	0246464R	CAP.-CERAMIC 100PF-J CH 50V TAPE
C004	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
C005	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C015	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C016	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
C017	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C018	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C019	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C025	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C026	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C029	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C030	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C031	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C032	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C033	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C034	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C035	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C036	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C037	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C040	0800353R	CAP.-ELECTRO.470UF-M 16V
C041	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C042	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C043	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
C044	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C045	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C046	0893048R	CAP2125CHIP 22000PFKB 50V TAPE
C053	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C054	0800326R	CAP.-ELECTRO. 100UF-M 16V
C057	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C061	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C064	0800326R	CAP.-ELECTRO. 100UF-M 16V
C065	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C067	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C068	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C070	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C071	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C072	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
C075	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C076	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C101	0800326R	CAP.-ELECTRO. 100UF-M 16V
C102	0800326R	CAP.-ELECTRO. 100UF-M 16V
C103	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C104	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C105	0800361N	CAP.-ELECTRO 1000UF 16V
C106	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C107	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C108	0800361N	CAP.-ELECTRO 1000UF 16V
C109	0800361N	CAP.-ELECTRO 1000UF 16V
C110	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C111	0800326R	CAP.-ELECTRO. 100UF-M 16V
C112	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C113	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C114	0800359R	CAP.-ELECTRO. 1000UF-M 10V
C115	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C116	0800361N	CAP.-ELECTRO 1000UF 16V
C119	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C11A	0228770R	CAP. MINI-CHIP 470PF-J SL 50V TAPE
C120	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C121	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C122	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C123	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C124	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C125	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C126	0228746R	CAP 2125 CHIP 47PFJSL 50V TAPE

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C127	0228038R	CAP 2125CHIP 22PFJCH 50V TAPE
C128	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C132	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C136	0800326R	CAP.-ELECTRO. 100UF-M 16V
C137	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C138	0228770R	CAP. MINI-CHIP 470PF-J SL 50V TAPE
C139	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C140	0800361N	CAP.-ELECTRO 1000UF 16V
C141	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C142	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C1C1	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
C303	0800326R	CAP.-ELECTRO. 100UF-M 16V
C304	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C305	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C3A2	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C3A3	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C401	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C402	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C403	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C404	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C405	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C406	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C407	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C408	0800318R	CAP.-ELECTRO. 47UF-M 25V
C409	0800318R	CAP.-ELECTRO. 47UF-M 25V
C410	0800327R	CAP.-ELECTRO. 100UF-M 25V
C411	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C412	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C413	0800327R	CAP.-ELECTRO. 100UF-M 25V
C414	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C415	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C416	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C417	0880198R	CAP.-PLOY. 0.22UF-J 50V
C418	0880198R	CAP.-PLOY. 0.22UF-J 50V
C419	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C420	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C422	0258616	CAP.-ELECTRO 2.2UF-M 50V
C423	0258616	CAP.-ELECTRO 2.2UF-M 50V
C424	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C426	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C427	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C428	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C451	0880198R	CAP.-PLOY. 0.22UF-J 50V
C456	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C457	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C458	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C459	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C504	0800308R	CAP.-ELECTRO. 33UF-M(SMG) 16V
C507	0228048R	CAP. MINI-CHIP 56PF-J CH 50V TAPE
C508	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C509	0890058R	CAP.-CERAMIC 8PF-50V
C510	0800326R	CAP.-ELECTRO. 100UF-M 16V
C511	0228708R	CAP. MINI-CHIP 8PF-C SL 50V TAPE
C512	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C513	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C514	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C515	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C516	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C517	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C518	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C519	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C520	0228032R	CAP 2125CHIP 12PFJCH 50V TAPE
C521	AN00615R	CAP.POLYESTER 0.0022UF 50V TAPE
C522	0800273R	CAP.-ELECTRO 0.22UF-M 50V
C523	0800326R	CAP.-ELECTRO. 100UF-M 16V
C524	0800326R	CAP.-ELECTRO. 100UF-M 16V
C525	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C526	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C527	0800326R	CAP.-ELECTRO. 100UF-M 16V
C528	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C529	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C530	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C531	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C532	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C533	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C534	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C535	0800353R	CAP.-ELECTRO.470UF-M 16V
C536	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE
C537	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C538	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C539	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C540	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C541	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C542	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C543	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C544	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C545	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C546	0800326R	CAP.-ELECTRO. 100UF-M 16V
C547	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C548	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C549	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C550	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C551	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C552	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C553	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C554	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C555	0800326R	CAP.-ELECTRO. 100UF-M 16V
C556	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C557	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C558	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C601	AN00626R	CAP.POLYESTER 0.015UF 50V TAPE
C602	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C603	AL01326R	AL ELECT. CAP. PW(4.7UF 50V)
C604	0800326R	CAP.-ELECTRO. 100UF-M 16V
C605	AN00619R	CAP.POLYESTER 0.0047UF 50V TAPE
C606	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C607	0880198R	CAP.-PLOY. 0.22UF-J 50V
C608	0244501R	CAP.-CERAMIC 1000PF-K 500V
C609	0244501R	CAP.-CERAMIC 1000PF-K 500V
C610	0800345R	CAP.-ELECTRO. 330UF-M(SMG) 25V
C611	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
C613	AL01157R	AL ELEC. CAP.(1UF 50V)

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C614	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V
C615	AL01143S	AL ELEC. CAP.(2200UF 25V)
C616	AL01336R	AL. ELECT. CAP. PW(10UF 16V)
C617	AL01297R	AL. ELECT. CAP. PW(1UF 50V)
C619	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C620	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C621	0298261R	CAP.-TANTALUM 1MF-J 35V
C622	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V
C632	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C633	0279693R	CAP.-POLYESTER FLM 0.1UF
C641	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C701	0251704	CAP.ELECTRO 470UF-M 160V(KMH)
C702	0299926F	CAP.-POLYESTER FILM 0.1UF-K 200V
C703	0890028M	CAP.-CERAMIC 330PF-K B 50V CYL.
C704	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C705	0243507R	CAP.-CERAMIC 330PF-K 500V TAPE
C706	0244501R	CAP.-CERAMIC 1000PF-K 500V
⚠ C707	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R
⚠ C708	AN01128F	METALLIZ PP FILM CAP. 0.0047UF
⚠ C709	AN01134F	METALLIZ PP FILM CAP. 0.0075UF
C710	0299932F	CAP.-POLYPRO. 0.33UF-K 200V
C711	0299930F	CAP.-POLYPRO. 0.22UF-K 200V
⚠ C712	0299707F	CAP.-POLYESTOR 0.015UF-K 630V
C713	0800277R	CAP.-ELECTORO. 0.47UF-M 50V
C714	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE
C715	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R
C717	0243503R	CAP.-CERAMIC 150PF-K B 500V
C718	AL00042	CAP.ELECTRO 33UF 350V
C719	0880198R	CAP.-PLOY. 0.22UF-J 50V
C721	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C722	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C723	AN01137F	METALLIZ PP FILM CAP. 0.01UF
C724	0279693R	CAP.-POLYESTER FLM 0.1UF
C725	0890087R	CAP.-CERAMIC 1000PF-K 50V
C726	0243508R	CAPACITOR-CERAMIC 390PF-K 500V
C727	0244501R	CAP.-CERAMIC 1000PF-K 500V
C729	0259471	CAP.-ELECTRO 6.8UF-M (BP) 50V
C730	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C731	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C740	0284667R	CAP.-ELECTRO. 47UF-MBPR(SME)16V
C750	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
C771	0890084R	CAP.-CERAMIC 560PF-K 50V
C801	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C802	0800326R	CAP.-ELECTRO. 100UF-M 16V
C804	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C805	0800326R	CAP.-ELECTRO. 100UF-M 16V
C807	0890087R	CAP.-CERAMIC 1000PF-K 50V
C808	0890084R	CAP.-CERAMIC 560PF-K 50V
C810	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C831	AL00037R	AL. ELEC. CAP. (33UF350V)
C834	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C835	0800326R	CAP.-ELECTRO. 100UF-M 16V
C837	0890087R	CAP.-CERAMIC 1000PF-K 50V
C838	0890084R	CAP.-CERAMIC 560PF-K 50V
C839	0890071R	CAP.-CERAMIC 56PF-J 50V
C840	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE

SYMBOL NO.	PART NO.	PART DESCRIPTION
C864	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C865	0800326R	CAP.-ELECTRO. 100UF-M 16V
C867	0890087R	CAP.-CERAMIC 1000PF-K 50V
C868	0890083R	CAP.-CERAMIC 470PF-K 50V
C870	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
⚠ C901	AN01445S	ACROSS CAPA 0.22UF 250V RE224
⚠ C902	AN01443S	ACROSS CAPA 0.1UF 250V RE104
C903	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C904	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C905	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C906	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C907	0800328R	CAP. ELECTRO. 100UF-M 35V
C908	0890087R	CAP.-CERAMIC 1000PF-K 50V
C909	0800323R	CAP.-ELECTRO. 47UF-M 100V
C910	0299977F	CAP.-PP FILM 0.0047UF-F 630V
C912	0890085R	CAP.-CERAMIC 680PF-K 50V
C913	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C914	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C915	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C916	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C917	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C918	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C919	0880198R	CAP.-PLOY. 0.22UF-J 50V
C920	0800328R	CAP. ELECTRO. 100UF-M 35V
C921	0800328R	CAP. ELECTRO. 100UF-M 35V
C922	0800326R	CAP.-ELECTRO. 100UF-M 16V
C923	0800328R	CAP. ELECTRO. 100UF-M 35V
C924	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C925	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C926	0880198R	CAP.-PLOY. 0.22UF-J 50V
C927	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C928	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C929	0251708	CE-681UF160V(KMH)
C930	AL00793S	CAP.EL.S-LEAD 1200UF-M(LXV) 16V
C931	0800353R	CAP.-ELECTRO.470UF-M 16V
C935	0800355N	CAP.ELECTRO. 470UF-M 35V
C937	AL00792S	CAP.-EL.S-LEAD 2200UF-M(LXV) 10V
C939	0800328R	CAP. ELECTRO. 100UF-M 35V
C940	0800353R	CAP.-ELECTRO.470UF-M 16V
C941	0880198R	CAP.-PLOY. 0.22UF-J 50V
C942	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C943	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C945	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C948	AL00952S	AL. ELEC. CAP. (4700UF6.3V)
C949	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C952	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C954	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C955	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C956	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C957	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
⚠ C958	AJ00157R	CAPACITOR CERAMIC 1000P 400V B
⚠ C959	AJ00163R	CAPACITOR CERAMIC 2200P 400V E
C961	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C962	0800326R	CAP.-ELECTRO. 100UF-M 16V
C963	0800303R	CAP.-ELECTRO. 22UF-M 50V
C964	0800361N	CAP.-ELECTRO 1000UF 16V

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C965	0800308R	CAP.-ELECTRO. 33UF-M(SMG) 16V
C966	0880198R	CAP.-PLOY. 0.22UF-J 50V
C967	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE
C968	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE
C969	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C971	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C974	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C975	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C977	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
CA01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA02	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA04	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA05	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA07	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA08	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA26	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA27	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA28	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA29	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA31	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA33	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA34	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA35	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA36	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA37	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA38	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CA39	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CA40	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA41	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA65	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA68	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CA69	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CA73	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CA74	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CA75	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA76	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CA77	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA79	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CA80	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA81	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA82	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA83	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V
CC02	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CC03	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CC04	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CE01	0800354R	CAP.-ELECTRO. 470UF-M 25V
CE02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE03	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CE04	0890076R	CAP.CERAMIC 150PF-K 50V
CE05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CE06	0890064R	CAP.-CERAMIC 18PF-J SL 50V
CE08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE10	0800321R	CAP.-ELECTRO. 47UF-M 50V

SYMBOL NO.	PART NO.	PART DESCRIPTION
CE11	0890074R	CAP.-CERAMIC 100PF-J 50V
CE12	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
CE14	AL00009R	ALU.ELEC.CAP. 47UF 160V
CE15	0247848R	CAP.-CERAMIC 56PF-J SL 500V
CE16	AL00007R	AL. ELEC. CAP.(220UF160V)
CE17	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
CE18	0890074R	CAP.-CERAMIC 100PF-J 50V
CE19	AL00009R	ALU.ELEC.CAP. 47UF 160V
CE20	AL00009R	ALU.ELEC.CAP. 47UF 160V
CE21	0890079R	CAP.-CERAMIC 270PF-K 50V
CE23	0890079R	CAP.-CERAMIC 270PF-K 50V
CF01	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF02	AL01296R	AL. ELECT. CAP. PW(0.47UF 350V)
CF03	AN01111F	METALLIZ PP FILM CAP.0.001UF
CF04	AN00614R	CAP.POLYESTER 0.0018UF 50V TAPE
CF05	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF06	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF07	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF08	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CF09	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CF10	0880197R	CAP.POLYESTER 0.18UF 50V
CF12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CF13	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CF14	0259151F	CAP.-ELECTRO. 100UF 160V
CF15	0880198R	CAP.-PLOY. 0.22UF-J 50V
CF16	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF17	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
CF18	0245158	CAPACITOT CERAMIC 68PF/2KV
CF19	0245156	CAPACITOT CERAMIC 22PF/2KV
CF20	0800326R	CAP.-ELECTRO. 100UF-M 16V
CF21	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CG01	0800353R	CAP.-ELECTRO.470UF-M 16V
CG02	0800326R	CAP.-ELECTRO. 100UF-M 16V
CG03	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CG04	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CG05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CG06	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CG07	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CG08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CG09	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CG10	0284621R	CAP.-ELECTRO. 0.47UF 50V (BP)
CG11	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG12	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG13	0284621R	CAP.-ELECTRO. 0.47UF 50V (BP)
CG14	0880198R	CAP.-PLOY. 0.22UF-J 50V
CG15	0893046R	CAP2125CHIP 15000PFKB50V TAPE
CG16	0893046R	CAP2125CHIP 15000PFKB50V TAPE
CG17	0880198R	CAP.-PLOY. 0.22UF-J 50V
CG18	AN00636R	CAP.POLYESTER 0.082UF 50V TAPE
CG19	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CG20	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CG21	AN00636R	CAP.POLYESTER 0.082UF 50V TAPE
CG22	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG23	0893037R	CAP 2125CHIP 3300PFKB 50V TAPE
CG24	0893037R	CAP 2125CHIP 3300PFKB 50V TAPE

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION
CG25	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG26	0893017R	CAP 2125CHIP 18000PFKB 25V TAPE
CG27	0893032R	CAP 2125CHIP 1200PFKB 50V TAPE
CG28	0893032R	CAP 2125CHIP 1200PFKB 50V TAPE
CG29	0893017R	CAP 2125CHIP 18000PFKB 25V TAPE
CG30	0893043R	CAP 2125CHIP 8200PFKB 50V TAPE
CG31	0228772R	CAP2125CHIP 560PFJSL 50V TAPE
CG32	0228772R	CAP2125CHIP 560PFJSL 50V TAPE
CG33	0893043R	CAP 2125CHIP 8200PFKB 50V TAPE
CG34	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CG35	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG36	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CG37	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG38	0800353R	CAP.-ELECTRO.470UF-M 16V
CG39	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG40	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG41	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CG42	0800326R	CAP.-ELECTRO. 100UF-M 16V
CG43	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG44	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CG45	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CG46	0284621R	CAP.-ELECTRO. 0.47UF 50V (BP)
CG47	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG48	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CG49	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CG50	AN00636R	CAP.POLYESTER 0.082UF 50V TAPE
CG51	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CG52	0893046R	CAP2125CHIP 15000PFKB50V TAPE
CG53	0880198R	CAP.-PLOY. 0.22UF-J 50V
CG54	AN00627R	CAP.POLYESTER 0.018UF 50V TAPE
CG55	0893032R	CAP 2125CHIP 1200PFKB 50V TAPE
CG56	0893037R	CAP 2125CHIP 3300PFKB 50V TAPE
CG57	0893052R	CAP2125CHIP 39000PFKB 50V TAPE
CG58	0228772R	CAP2125CHIP 560PFJSL 50V TAPE
CG59	0893043R	CAP 2125CHIP 8200PFKB 50V TAPE
CG60	0800326R	CAP.-ELECTRO. 100UF-M 16V
CG61	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CG62	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CK01	0800353R	CAP.-ELECTRO.470UF-M 16V
CK02	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CK03	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK04	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK07	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK10	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK12	0890076R	CAP.CERAMIC 150PF-K 50V
CK13	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK15	AN00611R	CAP.POLYSTYLENE 0.001UF 50V TAPE
CK16	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK17	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK18	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CK19	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CK20	0890076R	CAP.CERAMIC 150PF-K 50V
CK21	0890076R	CAP.CERAMIC 150PF-K 50V
CK22	0890076R	CAP.CERAMIC 150PF-K 50V
CK23	0890076R	CAP.CERAMIC 150PF-K 50V
CK24	0890076R	CAP.CERAMIC 150PF-K 50V
CK25	0890076R	CAP.CERAMIC 150PF-K 50V
CK27	0800356N	CAP.-ELECTRO. 470UF-M 50V
CK28	0800356N	CAP.-ELECTRO. 470UF-M 50V
CK29	0890076R	CAP.CERAMIC 150PF-K 50V
CK30	0890076R	CAP.CERAMIC 150PF-K 50V
CK31	0890076R	CAP.CERAMIC 150PF-K 50V
CK32	0890076R	CAP.CERAMIC 150PF-K 50V
CK33	0890076R	CAP.CERAMIC 150PF-K 50V
CK34	0890076R	CAP.CERAMIC 150PF-K 50V
CK60	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CL01	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL02	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL03	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL04	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL05	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL06	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL07	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL08	AN00633R	CAP.POLYESTER 0.047UF 50V TAPE
CL09	0800326R	CAP.-ELECTRO. 100UF-M 16V
CL10	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CM01	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CM02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CM03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CM04	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CM05	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CM06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CM09	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CM10	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CM11	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CM12	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CM14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CN01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CN02	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CN03	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CN04	0890084R	CAP.-CERAMIC 560PF-K 50V
CN05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CN06	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS01	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS02	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS03	0228774R	CAP. MINI-CHIP 680PF-J SL 50V TAPE
CS04	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS05	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS06	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS07	0880203R	CAP.-POLYESTER 0.47UF-J 50V
CS08	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CS09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS10	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS11	0800277R	CAP.-ELECTORO. 0.47UF-M 50V
CS12	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS13	0800277R	CAP.-ELECTORO. 0.47UF-M 50V
CS14	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION
CS15	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CS16	0800284R	CAP.-ELECTRO. 3.3UF-M(SMG) 50V
CS17	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CS18	0893048R	CAP2125CHIP 22000PFKB 50V TAPE
CS19	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS20	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS21	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS22	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS23	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS24	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS25	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CS26	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CS27	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS28	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS29	0800277R	CAP.-ELECTORO. 0.47UF-M 50V
CS30	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS31	0800277R	CAP.-ELECTORO. 0.47UF-M 50V
CS32	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS33	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CS34	0800284R	CAP.-ELECTRO. 3.3UF-M(SMG) 50V
CS35	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CS36	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CS37	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CS38	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS39	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS40	0246451R	CAPACITOR-CERAMIC 30PF-JB CH 50V
CS41	0246451R	CAPACITOR-CERAMIC 30PF-JB CH 50V
CS42	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS43	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CS44	0893033R	CAP 2125CHIP 1500PFKB 50V TAPE
CS45	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CS46	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CS47	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS48	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS49	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS51	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS52	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CS53	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CS54	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
CS55	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
CS56	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CS57	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS58	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS59	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CS60	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS61	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS62	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS64	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS65	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
CS66	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS67	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
CS68	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CS69	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CS70	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CS71	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CS72	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS73	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS74	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS75	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS76	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS78	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CS79	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CS80	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS93	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS94	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS96	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CS97	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS98	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CS99	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSA0	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSA1	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CSA2	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
CSA3	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
CSA4	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CSA5	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CSA6	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CSA7	0893041R	CAP 2125CHIP 5600PFKB 50V TAPE
CSA8	0893051R	CAP2125CHIP 33000PFKB 50V TAPE
CSA9	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CSC1	0800326R	CAP.-ELECTRO. 100UF-M 16V
CSC2	0800326R	CAP.-ELECTRO. 100UF-M 16V
CSC3	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSC4	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSC7	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSC8	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSC9	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSE1	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CSE2	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CSE3	0893035R	CAP2125CHIP 2200PFKB 50V TAPE
CSE4	0893035R	CAP2125CHIP 2200PFKB 50V TAPE
CSE7	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSE9	0800318R	CAP.-ELECTRO. 47UF-M 25V
CSF1	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSF6	0800318R	CAP.-ELECTRO. 47UF-M 25V
CSF7	0800318R	CAP.-ELECTRO. 47UF-M 25V
CSF8	0800327R	CAP.-ELECTRO. 100UF-M 25V
CSF9	0800363F	CAP.-ELECTRO. SMG1000UF-M 35V
CSG3	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CSG4	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CSG6	0800362F	CAP.-ELECTRO. 1000UF-M 25V
CSG7	0800362F	CAP.-ELECTRO. 1000UF-M 25V
CSG9	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CSH1	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CSH4	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CSJ3	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CSJ4	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CY01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY02	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY03	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY04	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY05	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY06	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CY07	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V	D111	2344041M	DIODE 1SS254TA/1SS270TA
CY08	0800326R	CAP.-ELECTRO. 100UF-M 16V	D112	2344041M	DIODE 1SS254TA/1SS270TA
CY09	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	D113	2348123M	ZENER MTZJ-6.2C TA
CY10	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V	D116	2331815M	ZENER HZ7-B2
CY11	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	D117	2335991M	ZENER HZ-T33 (02 TP)
CY12	0800326R	CAP.-ELECTRO. 100UF-M 16V	D118	2335991M	ZENER HZ-T33 (02 TP)
CY13	0893033R	CAP 2125CHIP 1500PFKB 50V TAPE	D301	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
CY14	0800353R	CAP.-ELECTRO.470UF-M 16V	D401	2344041M	DIODE 1SS254TA/1SS270TA
CY15	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	D402	2344041M	DIODE 1SS254TA/1SS270TA
CY16	0800326R	CAP.-ELECTRO. 100UF-M 16V	D404	2344041M	DIODE 1SS254TA/1SS270TA
CY17	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	D405	2344041M	DIODE 1SS254TA/1SS270TA
CY18	0800326R	CAP.-ELECTRO. 100UF-M 16V	D406	2344041M	DIODE 1SS254TA/1SS270TA
CY19	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	D407	2344041M	DIODE 1SS254TA/1SS270TA
CY20	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	D501	2344041M	DIODE 1SS254TA/1SS270TA
CY30	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	D502	2344041M	DIODE 1SS254TA/1SS270TA
CY31	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	D503	2344041M	DIODE 1SS254TA/1SS270TA
CY32	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	D504	2344041M	DIODE 1SS254TA/1SS270TA
CY33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	D505	2348163M	ZENER MTZJ-9.1C TA
CY34	0800326R	CAP.-ELECTRO. 100UF-M 16V	D507	2344041M	DIODE 1SS254TA/1SS270TA
CY35	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	D508	2344041M	DIODE 1SS254TA/1SS270TA
CY36	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	D509	2348163M	ZENER MTZJ-9.1C TA
CY37	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	D510	2348163M	ZENER MTZJ-9.1C TA
CY38	0800353R	CAP.-ELECTRO.470UF-M 16V	D511	2348163M	ZENER MTZJ-9.1C TA
CY39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	D513	2344041M	DIODE 1SS254TA/1SS270TA
CY50	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	D515	2348163M	ZENER MTZJ-9.1C TA
CY75	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V	D516	2348163M	ZENER MTZJ-9.1C TA
		DIODES	D517	2348163M	ZENER MTZJ-9.1C TA
D005	2344041M	DIODE 1SS254TA/1SS270TA	D602	2344041M	DIODE 1SS254TA/1SS270TA
D013	2344041M	DIODE 1SS254TA/1SS270TA	D603	CH02011M	DIODE 1SR153-400
D015	2331827M	ZD HZ-9 TAPE (C1) SI 500MW 9.3V	D604	CH02011M	DIODE 1SR153-400
D024	2344041M	DIODE 1SS254TA/1SS270TA	D605	2344041M	DIODE 1SS254TA/1SS270TA
D025	2344041M	DIODE 1SS254TA/1SS270TA	D606	2344041M	DIODE 1SS254TA/1SS270TA
D026	2348212M	DIO-MTZ-J15BTA	D607	2334243M	ZENER RD16E(B2T2/TP/TA)SI 10MA 16.51V
D027	2348212M	DIO-MTZ-J15BTA	D609	CH02001M	DIODE 1SR139-400
D028	2348212M	DIO-MTZ-J15BTA	D610	CH02001M	DIODE 1SR139-400
D029	2348212M	DIO-MTZ-J15BTA	D611	CH02001M	DIODE 1SR139-400
D030	2348212M	DIO-MTZ-J15BTA	D612	2331154M	ZENER HZ-12(A1-3 B1-3.TA)SI 200MA 14.3V
D031	2344041M	DIODE 1SS254TA/1SS270TA	D613	2344041M	DIODE 1SS254TA/1SS270TA
D040	2344041M	DIODE 1SS254TA/1SS270TA	D614	CH02011M	DIODE 1SR153-400
D041	2344041M	DIODE 1SS254TA/1SS270TA	D615	2344041M	DIODE 1SS254TA/1SS270TA
D044	2344041M	DIODE 1SS254TA/1SS270TA	D616	2334305M	ZENER RD30E(B4 T2/TP/TA)SI 5MA 30.51V
D045	2348102M	ZENER MTZJ-5.1B TA	D701	2344041M	DIODE 1SS254TA/1SS270TA
D046	2348212M	DIO-MTZ-J15BTA	⚠ D702	2348511G	DIODE RS3FS LF-U1(014-201)
D048	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D703	CH00891S	DIODE UF5406 (600V)
D051	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D704	CH00891S	DIODE UF5406 (600V)
D053	2344041M	DIODE 1SS254TA/1SS270TA	D705	2344041M	DIODE 1SS254TA/1SS270TA
D054	2344041M	DIODE 1SS254TA/1SS270TA	D706	2344041M	DIODE 1SS254TA/1SS270TA
D055	CH00151M	DIODE DSM1SD2(200V)TAPE	D708	2344041M	DIODE 1SS254TA/1SS270TA
D057	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D709	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW
D058	2344041M	DIODE 1SS254TA/1SS270TA	D710	CH02001M	DIODE 1SR139-400
D059	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D711	CH00031M	DIODE AU02V1(280V)
D101	2348212M	DIO-MTZ-J15BTA	⚠ D712	CH00031M	DIODE AU02V1(280V)
D106	2344041M	DIODE 1SS254TA/1SS270TA	D713	CH00901M	DIODE RGP02-15E 1500V 20A
D107	2344041M	DIODE 1SS254TA/1SS270TA	D714	CH00901M	DIODE RGP02-15E 1500V 20A
D108	2344041M	DIODE 1SS254TA/1SS270TA	D715	CH02011M	DIODE 1SR153-400
D109	2344041M	DIODE 1SS254TA/1SS270TA	D716	2348231M	ZENER DIODE MTZ-18A TA

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D717	2339612M	ZENER HZS-3 TA (BLL) SI 200MA 3V	D944	2344041M	DIODE 1SS254TA/1SS270TA
D718	2344041M	DIODE 1SS254TA/1SS270TA	D945	CH02011M	DIODE 1SR153-400
D719	CH02001M	DIODE 1SR139-400	D946	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D720	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	D947	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D721	2348193M	ZENER DIODE MTZJ-12C TA	D948	2344041M	DIODE 1SS254TA/1SS270TA
D722	2348151M	ZENER MTZ-J8.2ATA	D951	2348092M	ZENER MTZ-J4.7BTA
D723	2344041M	DIODE 1SS254TA/1SS270TA	D952	2344041M	DIODE 1SS254TA/1SS270TA
D724	2348123M	ZENER MTZJ-6.2C TA	D956	2344041M	DIODE 1SS254TA/1SS270TA
D725	2344041M	DIODE 1SS254TA/1SS270TA	D957	2348213M	ZENER DIODE MTZJ-15C TA
D777	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V	D958	2344041M	DIODE 1SS254TA/1SS270TA
D778	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	D959	2344041M	DIODE 1SS254TA/1SS270TA
D802	2344041M	DIODE 1SS254TA/1SS270TA	D960	2344041M	DIODE 1SS254TA/1SS270TA
D803	2344041M	DIODE 1SS254TA/1SS270TA	D961	2344041M	DIODE 1SS254TA/1SS270TA
D804	2344041M	DIODE 1SS254TA/1SS270TA	D962	2344041M	DIODE 1SS254TA/1SS270TA
D805	2344041M	DIODE 1SS254TA/1SS270TA	D963	2344041M	DIODE 1SS254TA/1SS270TA
D832	2344041M	DIODE 1SS254TA/1SS270TA	D964	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D833	2344041M	DIODE 1SS254TA/1SS270TA	D966	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D862	2344041M	DIODE 1SS254TA/1SS270TA	D967	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D863	2344041M	DIODE 1SS254TA/1SS270TA	D969	2348102M	ZENER MTZJ-5.1B TA
⚠ D901	2338313	DIODE RBV-406M (60V) SI 0.1USEC	D971	2348143M	DIODE MTZ-J7.5CTA
D902	CH02001M	DIODE 1SR139-400	D972	2337952S	DIODE RU4YX(LF015-302)
D903	CH02001M	DIODE 1SR139-400	D973	CH02011M	DIODE 1SR153-400
D904	CH02011M	DIODE 1SR153-400	D974	2348111M	ZENER MTZ-J5.6ATA
D905	CH02011M	DIODE 1SR153-400	D975	2344041M	DIODE 1SS254TA/1SS270TA
D906	2348253M	ZENER MTZ-J22CTA	D976	CH02011M	DIODE 1SR153-400
D907	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V	D977	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D908	CH02011M	DIODE 1SR153-400	DA01	2344041M	DIODE 1SS254TA/1SS270TA
D910	2331844M	ZENER HZ12-B1	DA02	2344041M	DIODE 1SS254TA/1SS270TA
D911	2331844M	ZENER HZ12-B1	DA03	2348031M	DIO-MTZ-J2.7ATA
D912	CH00183R	LIGHT EMITTING DIODE (SLZ-981C-06-T1)	DA04	2348031M	DIO-MTZ-J2.7ATA
D913	2337952S	DIODE RU4YX(LF015-302)	DA05	2344041M	DIODE 1SS254TA/1SS270TA
D914	2337952S	DIODE RU4YX(LF015-302)	DA06	2344041M	DIODE 1SS254TA/1SS270TA
D915	2337952S	DIODE RU4YX(LF015-302)	DA07	2348031M	DIO-MTZ-J2.7ATA
D916	2337952S	DIODE RU4YX(LF015-302)	DA08	2348031M	DIO-MTZ-J2.7ATA
D917	CH02001M	DIODE 1SR139-400	DA09	2348212M	DIO-MTZ-J15BTA
D918	2348271M	ZENER MTZ-J27ATA	DA10	2348212M	DIO-MTZ-J15BTA
D919	2348213M	ZENER DIODE MTZJ-15C TA	DA11	2344041M	DIODE 1SS254TA/1SS270TA
D920	2344041M	DIODE 1SS254TA/1SS270TA	DA12	2344041M	DIODE 1SS254TA/1SS270TA
D921	2348121M	ZENER MTZJ-6.2A TA	DA13	2344041M	DIODE 1SS254TA/1SS270TA
D922	2348283M	ZENER DIODE MTZJ-30C TA	DA14	2344041M	DIODE 1SS254TA/1SS270TA
D923	2344041M	DIODE 1SS254TA/1SS270TA	DA17	2348052M	DIODE MTZ-J3.3BTA
D924	2348042M	ZENER MTZ-J3.0BTA	DA18	2348031M	DIO-MTZ-J2.7ATA
D925	2348264M	ZENER DIODE MTZJ-24D TA	DA19	2344041M	DIODE 1SS254TA/1SS270TA
D926	CH02011M	DIODE 1SR153-400	DC03	2348212M	DIO-MTZ-J15BTA
D928	CH01042M	DIODE RK34 (40V)	DE03	2344041M	DIODE 1SS254TA/1SS270TA
D929	CH01061F	DIODE RU4AM(600V)	DE04	CH00151M	DIODE DSM1SD2(200V)TAPE
D931	2348283M	ZENER DIODE MTZJ-30C TA	DE05	CH00151M	DIODE DSM1SD2(200V)TAPE
D932	2344041M	DIODE 1SS254TA/1SS270TA	DE06	CH00151M	DIODE DSM1SD2(200V)TAPE
D933	2348132M	ZENER MTZ-J6.8BTA	DE07	CH00151M	DIODE DSM1SD2(200V)TAPE
D936	2348193M	ZENER DIODE MTZJ-12C TA	DF01	2344041M	DIODE 1SS254TA/1SS270TA
D937	2344041M	DIODE 1SS254TA/1SS270TA	DF02	2344041M	DIODE 1SS254TA/1SS270TA
D938	CH01052M	DIODE RK14	DF03	2344041M	DIODE 1SS254TA/1SS270TA
D939	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DF04	2338531M	DIODE EG-01C (V) SI 0.5A
D940	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DF05	2344041M	DIODE 1SS254TA/1SS270TA
D941	2344041M	DIODE 1SS254TA/1SS270TA	DF07	2344041M	DIODE 1SS254TA/1SS270TA
D942	2348132M	ZENER MTZ-J6.8BTA	DF08	2344041M	DIODE 1SS254TA/1SS270TA
D943	2344041M	DIODE 1SS254TA/1SS270TA	DF09	2344041M	DIODE 1SS254TA/1SS270TA

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SYMBOL NO.	PART NO.	PART DESCRIPTION
DG01	2348103M	ZENER MTZJ-5.1C TA
DG02	2348103M	ZENER MTZJ-5.1C TA
DK01	2339551M	DIODE ED14(V1) SI 5MA 45V
DK04	CH02011M	DIODE 1SR153-400
DK05	CH02011M	DIODE 1SR153-400
DK06	2344041M	DIODE 1SS254TA/1SS270TA
DK16	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK17	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK18	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK19	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK20	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK21	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK22	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK23	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK24	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK25	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK26	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK27	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK30	2348141M	ZENER DIODE MTZJ-7.5A TA
DK31	2348141M	ZENER DIODE MTZJ-7.5A TA
DK32	2348141M	ZENER DIODE MTZJ-7.5A TA
DK33	2348141M	ZENER DIODE MTZJ-7.5A TA
DK34	2348141M	ZENER DIODE MTZJ-7.5A TA
DK35	2348141M	ZENER DIODE MTZJ-7.5A TA
DK36	2348141M	ZENER DIODE MTZJ-7.5A TA
DK37	2348141M	ZENER DIODE MTZJ-7.5A TA
DK40	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK41	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK42	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK43	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK44	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DL01	2348141M	ZENER DIODE MTZJ-7.5A TA
DL02	2348141M	ZENER DIODE MTZJ-7.5A TA
DL03	2348141M	ZENER DIODE MTZJ-7.5A TA
DL04	2348141M	ZENER DIODE MTZJ-7.5A TA
DL05	2348141M	ZENER DIODE MTZJ-7.5A TA
DL06	2348141M	ZENER DIODE MTZJ-7.5A TA
DL07	2348141M	ZENER DIODE MTZJ-7.5A TA
DL08	2348141M	ZENER DIODE MTZJ-7.5A TA
DL10	2344041M	DIODE 1SS254TA/1SS270TA
DL11	2344041M	DIODE 1SS254TA/1SS270TA
DL12	2344041M	DIODE 1SS254TA/1SS270TA
DL13	2344041M	DIODE 1SS254TA/1SS270TA
DL14	2344041M	DIODE 1SS254TA/1SS270TA
DL15	2344041M	DIODE 1SS254TA/1SS270TA
DL16	2344041M	DIODE 1SS254TA/1SS270TA
DL17	2344041M	DIODE 1SS254TA/1SS270TA
DL20	2348123M	ZENER MTZJ-6.2C TA
DL21	2348123M	ZENER MTZJ-6.2C TA
DL22	2348123M	ZENER MTZJ-6.2C TA
DL23	2348123M	ZENER MTZJ-6.2C TA
DL24	2348123M	ZENER MTZJ-6.2C TA
DL25	2348123M	ZENER MTZJ-6.2C TA
DL26	2348123M	ZENER MTZJ-6.2C TA
DL27	2348123M	ZENER MTZJ-6.2C TA
DL28	2331827M	ZD HZ-9 TAPE (C1) SI 500MW 9.3V

SYMBOL NO.	PART NO.	PART DESCRIPTION
DL30	2348161M	DIODE MTZ-J 9.1ATA
DL31	2348161M	DIODE MTZ-J 9.1ATA
DL32	2348161M	DIODE MTZ-J 9.1ATA
DL33	2348161M	DIODE MTZ-J 9.1ATA
DL34	2348161M	DIODE MTZ-J 9.1ATA
DL35	2348161M	DIODE MTZ-J 9.1ATA
DL36	2348161M	DIODE MTZ-J 9.1ATA
DL37	2348161M	DIODE MTZ-J 9.1ATA
DM01	2344041M	DIODE 1SS254TA/1SS270TA
DM02	2344041M	DIODE 1SS254TA/1SS270TA
DM03	CH00231	LED SLH-56VC3F
DM04	2348212M	DIO-MTZ-J15BTA
DM05	2348212M	DIO-MTZ-J15BTA
DM07	2348212M	DIO-MTZ-J15BTA
DM08	2348212M	DIO-MTZ-J15BTA
DM09	2348212M	DIO-MTZ-J15BTA
DM10	2348212M	DIO-MTZ-J15BTA
DM11	2348212M	DIO-MTZ-J15BTA
DN01	2344041M	DIODE 1SS254TA/1SS270TA
DN02	2344041M	DIODE 1SS254TA/1SS270TA
DN03	2344041M	DIODE 1SS254TA/1SS270TA
DN04	2344041M	DIODE 1SS254TA/1SS270TA
DN05	2348071M	ZENER DIODE MTZJ-3.9A TA
DN06	2344041M	DIODE 1SS254TA/1SS270TA
DN07	2344041M	DIODE 1SS254TA/1SS270TA
DN08	CH02001M	DIODE 1SR139-400
DN09	2331849M	ZENER HZ12C3 (TA) SI 500MW
DN10	2344041M	DIODE 1SS254TA/1SS270TA
DN11	2344041M	DIODE 1SS254TA/1SS270TA
DS01	2344041M	DIODE 1SS254TA/1SS270TA
DS02	2344041M	DIODE 1SS254TA/1SS270TA
DS03	2344041M	DIODE 1SS254TA/1SS270TA
DS04	2348103M	ZENER MTZJ-5.1C TA
DS05	CH00151M	DIODE DSM1SD2(200V)TAPE
DS06	CH00151M	DIODE DSM1SD2(200V)TAPE
DS12	2344041M	DIODE 1SS254TA/1SS270TA
DS14	2344041M	DIODE 1SS254TA/1SS270TA
DS15	2344041M	DIODE 1SS254TA/1SS270TA
DY01	2344041M	DIODE 1SS254TA/1SS270TA
DY02	2348212M	DIO-MTZ-J15BTA
DY03	2348212M	DIO-MTZ-J15BTA
DY04	2348212M	DIO-MTZ-J15BTA
DY05	2348163M	ZENER MTZJ-9.1C TA
DY06	2348163M	ZENER MTZJ-9.1C TA
DY07	2348163M	ZENER MTZJ-9.1C TA
		TRANSISTORS
Q001	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q002	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q004	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q005	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q006	CA11271R	TRS 2SA1037AK T146 RS
Q007	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q008	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q009	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q011	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q013	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
Q014	CA11271R	TRS 2SA1037AK T146 RS
Q015	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q016	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q017	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q018	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q019	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q024	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q026	2312171	TRS. 2SC3852
Q027	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q028	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q029	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q030	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q032	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q101	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q102	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q103	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ) SI 80MHZ400MW
Q106	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q107	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q108	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q109	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q110	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q111	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q112	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q113	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q114	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q115	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q118	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q401	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q402	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q403	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q404	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q500	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q501	CA00171R	TRS.CHIP IMT5 25V TAPE
Q502	2328072R	TRS.CHIP FMW2 40V TAPE
Q503	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q505	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q506	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
Q509	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q510	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q511	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q512	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q513	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q515	CA11271R	TRS 2SA1037AK T146 RS
Q516	CA11271R	TRS 2SA1037AK T146 RS
Q517	CA11271R	TRS 2SA1037AK T146 RS
Q519	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q520	CA11271R	TRS 2SA1037AK T146 RS
Q521	CA11271R	TRS 2SA1037AK T146 RS
Q601	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q602	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q603	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q604	2320663M	TRS. 2SC1213A (C)
Q605	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q606	CF00611	TRS. 2SC3969(AB) 400V
Q607	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q608	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW

SYMBOL NO.	PART NO.	PART DESCRIPTION
Q609	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q701	2326216	TRS. 2SC3116 (S/T)
Q702	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q703	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q705	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q710	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q711	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q712	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
⚠ Q777	CF01541F	2SC2514 F
Q801	2312372F	TRS-2SC3942
Q802	2320663M	TRS. 2SC1213A (C)
Q803	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q804	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q805	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q806	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q831	2312372F	TRS-2SC3942
Q832	2320663M	TRS. 2SC1213A (C)
Q833	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q861	2312372F	TRS-2SC3942
Q862	2320663M	TRS. 2SC1213A (C)
Q863	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q901	2312171	TRS. 2SC3852
Q902	2312171	TRS. 2SC3852
Q903	CF02281R	TRS. 2SA821S
Q905	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q906	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q907	CF02251R	2SC3415S TP
Q908	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q909	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q912	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q913	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
⚠ Q914	2323782R	THYRISTOR 03P2M(TA)
Q916	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q917	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q918	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
QA01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA02	CA11271R	TRS 2SA1037AK T146 RS
QA03	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA04	CA11271R	TRS 2SA1037AK T146 RS
QA05	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA07	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA09	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA11	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA12	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA72	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA73	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA74	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA75	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA76	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA77	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA78	CA11271R	TRS 2SA1037AK T146 RS
QA79	CA11271R	TRS 2SA1037AK T146 RS
QA80	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE01	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE02	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
QE03	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)	QY02	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE04	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)	QY03	CA11271R	TRS 2SA1037AK T146 RS
QE05	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)	QY04	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE06	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ) SI 80MHZ400MW	QY05	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
QE07	2321351M	TRS. 2SA836/844D/E 100MA 200MW 200MHZSI	QY06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE08	CF00531	TRS. 2SA1964 160V	QY07	2326021M	TRS. 2SC1741S P/R/Q (TP)250MHZ 300MW
QE09	CF00541	TRS. 2SC5248 160V	QY08	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE10	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)	QY10	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE11	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)	QY11	CA11271R	TRS 2SA1037AK T146 RS
QE12	2320637M	TRS. 2SA673(C26TZ/D26TZ)SI 80MHZ 400MW	QY12	2320647M	TRS. 2SC1213(C 21 TZ/D 21 TZ)SI 80MHZ400MW
QF01	2320637M	TRS.2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	QY13	2320647M	TRS. 2SC1213(C 21 TZ/D 21 TZ)SI 80MHZ400MW
QF03	2320663M	TRS. 2SC1213A (C)	QY51	CA11271R	TRS 2SA1037AK T146 RS
QF04	2320637M	TRS.2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	QY54	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF05	2320663M	TRS. 2SC1213A (C)	QY57	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF06	CF00821F	TRS. 2SC4686A 1200V	QY58	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF07	CF00821F	TRS. 2SC4686A 1200V	QY59	CA11271R	TRS 2SA1037AK T146 RS
QF08	CF00821F	TRS. 2SC4686A 1200V	QY60	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF09	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	QY61	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF10	2320637M	TRS.2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	QY62	CA11271R	TRS 2SA1037AK T146 RS
QF11	2320663M	TRS. 2SC1213A (C)	QY63	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF12	2320591M	TRS.2SC458(B TZ/C TZ)SI 230MHZ200MW			**RESISTORS**
QF13	2320591M	TRS.2SC458(B TZ/C TZ)SI 230MHZ200MW	R001	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QF14	2320591M	TRS.2SC458(B TZ/C TZ)SI 230MHZ200MW	R002	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
QF15	2320591M	TRS.2SC458 (B TZ/C TZ)SI 230MHZ200MW	R003	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
QF16	2320637M	TRS.2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R005	0700063M	RES.-CARBON FLM 1/16W 47K-JB
QF17	CF10852R	TRS. DTC144ESA-T	R007	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
QK01	2312171	TRS. 2SC3852	R008	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
QK02	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)SI 80MHZ 400MW	R009	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QK03	2320637M	TRS.2SA673(C 26TZ/D 26TZ) SI 80MHZ 400MW	R010	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
QK04	2320591M	TRS.2SC458(B TZ/C TZ)SI 230MHZ200MW	R011	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
QK06	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R012	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
QK07	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R013	0700054M	RES.-CARBON FLM 1/16W 10K-JB
QK08	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R014	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QL10	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R015	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
QL11	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R016	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
QL12	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R021	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QL13	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R022	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
QL14	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R023	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QL15	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R024	0700054M	RES.-CARBON FLM 1/16W 10K-JB
QL16	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R025	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
QL17	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R026	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QM01	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R029	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
QM02	2312992	PHOTO TRS. RPT-38PT3F (M)	R034	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QM03	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R035	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QM04	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R036	0195875R	RES 2125 CHIP 1/16W 100J TAPE
QN01	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R037	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QN02	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R038	0195875R	RES 2125 CHIP 1/16W 100J TAPE
QN03	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R040	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
QN04	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R042	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
QN05	2320591M	TRS. 2SC458(B TZ/C TZ)SI 230MHZ200MW	R043	0195875R	RES 2125 CHIP 1/16W 100J TAPE
QN06	2320637M	TRS. 2SA673(C 26TZ/D 26TZ)SI 80MHZ 400MW	R044	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QS01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	R045	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
QS18	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	R046	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QS20	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	R047	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
QS21	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	R048	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
QY01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	R049	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R050	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R051	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R055	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0G7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R056	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0G8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R059	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R060	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R0H1	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R061	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R062	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R063	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R064	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H5	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R066	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0H6	0195881R	RES 2125 CHIP 1/16W 180J TAPE
R067	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	R0H7	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R068	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0H8	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R069	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0L5	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R070	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0L6	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R071	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0L8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R072	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R0M2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R073	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0M3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R074	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M4	AW00074	TRIMMER RESISTOR
R075	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M5	0700032M	RES.-CARBON FLM 1/16W 220-JB
R076	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0M6	AW00074	TRIMMER RESISTOR
R078	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0M7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R081	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0M8	AW00074	TRIMMER RESISTOR
R082	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R0M9	0700032M	RES.-CARBON FLM 1/16W 220-JB
R083	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0N2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R086	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0N4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R087	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0N8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R088	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P1	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R089	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0P2	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R090	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0P3	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R093	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P5	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R096	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0P6	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R099	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P8	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R0A2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0A5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0A6	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R0R3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0A7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R4	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A8	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R6	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0C1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0R7	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0C3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0R8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0C4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0R9	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0C5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0S1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0C6	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0S2	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0C7	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE	R0T1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0E2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0T2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0E3	0188127M	RES.-CARBON FLM 560-JB 1/2W	R0T4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0E4	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0T5	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0E5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0T6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0E6	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0T7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0E7	0700055M	RES.-CARBON FLM 1/16W 12K-JB	R0T8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R0E8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0T9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0F7	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	R0U1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R0F8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0U3	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0F9	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0U4	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0G1	0100123M	RES.-CARBON FLM 1/8W 270K-JB	R0U5	0700027M	RES.-CARBON FLM 1/16W 100-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R101	0700039M	RES.-CARBON FLM 1/16W 820-JB	R176	0100041M	RES.-CARBON FLM 1/8W 100-JB
R102	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R177	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R103	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R178	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R104	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R179	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R105	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R180	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R106	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R181	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R107	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R182	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R109	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R183	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R110	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R184	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R111	0700027M	RES.-CARBON FLM 1/16W 100-JB	R185	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R112	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R186	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R113	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R187	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R114	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R196	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R115	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R197	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R116	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R198	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R118	0100059M	RES.-CARBON FLM 1/8W 560-JB	R1A2	0700023M	RES.-CARBON FLM 1/16W 47-J
R119	0100059M	RES.-CARBON FLM 1/8W 560-JB	R1A3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R121	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1A8	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R122	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1A9	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R123	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R1B2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R124	0700027M	RES.-CARBON FLM 1/16W 100-JB	R1C1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R125	0700027M	RES.-CARBON FLM 1/16W 100-JB	R312	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R127	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R313	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R128	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R314	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R129	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R315	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R132	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3A4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R133	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3A5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R134	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R3A6	0700032M	RES.-CARBON FLM 1/16W 220-JB
R135	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3A7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R139	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R3A8	0700032M	RES.-CARBON FLM 1/16W 220-JB
R140	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R3C3	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R141	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R3C4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R142	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3E1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R144	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3E2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R146	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R147	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R148	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3E5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R149	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3E6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R150	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R3E7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R151	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3E8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R152	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3F1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R153	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3F3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R154	0700036M	RES.-CARBON FLM 1/16W 470-JB	R3F4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R155	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3F5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R156	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R3F6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R157	AT03694M	RES.MTL GRAZD FLM 1W 10M	R3F7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R158	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3F8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R159	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3F9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R160	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R3G1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R163	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3G2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R167	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R3G3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R168	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R3G4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R169	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R3G6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R173	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R174	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3G8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R175	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R3H1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R504	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R505	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3H4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R506	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R3H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R508	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3H8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R509	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R510	0195906R	RESISTOR MINI-CHIP RMC1/16 1.8K-J TAPE
R3J4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R511	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
R3J5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R516	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3J6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R517	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R518	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3J8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R519	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R520	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3K1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R521	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R3K2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R522	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R3K3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R526	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R3K4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R527	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R528	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R529	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3K7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R530	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3K8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R531	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3K9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R532	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R533	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R535	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R3L6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R536	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3L7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R537	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3L8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R538	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3L9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R539	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3M1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R540	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R3M2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R541	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3M3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R542	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3M4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R545	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3M5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R547	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R3M7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R548	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
R3M8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R549	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R3M9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R550	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
R3P1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R551	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3P4	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R552	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE
R402	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R553	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R404	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R555	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R405	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R556	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R406	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R557	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R407	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R558	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R408	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R559	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R411	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R561	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R412	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R562	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R413	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R563	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R414	0700036M	RES.-CARBON FLM 1/16W 470-JB	R564	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
R415	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R566	0188118M	RES.-CARBON FLM 1/2W 120-JB
R416	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R567	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R417	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)	R568	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R418	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)	R569	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R419	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R570	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R420	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R571	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R421	0188131M	RES.-CARBON FLM 1/4W 1K-JB	R572	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R422	0188131M	RES.-CARBON FLM 1/4W 1K-JB	R573	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R503	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R574	0195875R	RES 2125 CHIP 1/16W 100J TAPE

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R575	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5F4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R576	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R577	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R578	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R579	0188125M	RES.-CARBON FLM 390-J 1/2W	R5F9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R580	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R581	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R582	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R583	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R584	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R586	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	R5H1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R588	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R590	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R591	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R592	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R593	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5J3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R595	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5J4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R597	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5K1	0195975R	RMC73S-2A105JR
R598	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R601	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R5A0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R602	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R5A1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R603	AW00126	TRIMMER RESISTOR
R5A2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R604	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R5A3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R605	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5A4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R606	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R607	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R608	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R609	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R610	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R5C0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R611	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5C3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R612	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5C4	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R613	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R614	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R615	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5C7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R616	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5C8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R617	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R5C9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R618	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5D0	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R619	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5D1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R620	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5D2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R621	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5D3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R622	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R5D4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R623	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5D5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R624	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5D6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R625	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R5D7	0700027M	RES.-CARBON FLM 1/16W 100-JB	R626	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R5D8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R627	0100063M	RES.-CARBON FLM 1/8W 820-JB
R5E2	0700027M	RES.-CARBON FLM 1/16W 100-JB	R628	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R5E3	0700027M	RES.-CARBON FLM 1/16W 100-JB	R629	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5E4	0700027M	RES.-CARBON FLM 1/16W 100-JB	R630	AW00128	TRIMMER RESISTOR
R5E5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R631	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
R5E6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R632	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5E7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R635	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5E8	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R636	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R5E9	0700027M	RES.-CARBON FLM 1/16W 100-JB	R637	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R5F1	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R638	0700038M	RES.-CARBON FLM 1/16W 680-JB
R5F2	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R639	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5F3	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE	R640	0100045M	RES.-CARBON FLM 1/8W 150-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R641	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W	R761	0114177M	RESISTOR-CARBON FILM SRD 1/4 P 4.7K-J
R642	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W	R770	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R643	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R771	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R645	0119731M	RES.-MTL 0X1DE 1W R68-K TAPE	R772	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R646	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R773	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R647	0700059M	RES.-CARBON FLM 1/16W 27K-JB	R801	0140326S	RES. WIRE WOUND 5.6K-J 5W
R648	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R803	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R649	0100053M	RES.-CARBON FLM 1/8W 330-JB	R806	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R651	0114135M	RES.-CARBON FLM 1/4W 150-JB	R810	0100051M	RES.-CARBON FLM 1/8W 270-JB
R652	0700014M	RES.-CARBON FLM 1/16W 10-J	R811	0100057M	RES.-CARBON FLM 1/8W 470-JB
R660	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J	R812	0100045M	RES.-CARBON FLM 1/8W 150-JB
R661	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J	R815	0100063M	RES.-CARBON FLM 1/8W 820-JB
R671	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J	R817	0100041M	RES.-CARBON FLM 1/8W 100-JB
R672	0113766M	RESISTOR CARBON FILM SRD1/2P-B 4.7K-J	R818	0100049M	RES.-CARBON FLM 1/8W 220-JB
R673	AT03242S	METAL OX. 100OHM 1W	R821	0100063M	RES.-CARBON FLM 1/8W 820-JB
R674	0700039M	RES.-CARBON FLM 1/16W 820-JB	R822	0100049M	RES.-CARBON FLM 1/8W 220-JB
R675	0700061M	RES.-CARBON FLM 1/16W 33K-JB	R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R701	AT03599S	METAL OX. 2.7KOHM 3W	R825	0100021M	RES.-CARBON FLM 1/8W 15-JB
R702	AT03595S	METAL OX. 1.8KOHM 3W	R827	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R704	0100031M	RES.-CARBON FLM 1/8W 39-JB	R831	0140326S	RES. WIRE WOUND 5.6K-J 5W
R705	0700034M	RES.-CARBON FLM 1/16W 330-JB	R833	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R706	0700032M	RES.-CARBON FLM 1/16W 220-JB	R836	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R707	0113770M	RESISTOR CARBON FILM SRD1/2P-B 6.8K-J	R840	0100051M	RES.-CARBON FLM 1/8W 270-JB
R708	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R841	0100057M	RES.-CARBON FLM 1/8W 470-JB
R709	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R842	0100033M	RES.-CARBON FLM 1/8W 47-JB
R710	0187068M	RES.-CARBON FLM 1/16W 1.3K-JB	R843	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R711	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	R855	0100021M	RES.-CARBON FLM 1/8W 15-JB
R712	0700055M	RES.-CARBON FLM 1/16W 12K-JB	R861	0140326S	RES. WIRE WOUND 5.6K-J 5W
R713	0113727M	RESISTOR CARBON FILM SRD1/2P-B 120-J	R863	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R714	AT03219S	METAL OX. 15.0OHM 1W	R866	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
⚠ R715	0700062M	RES.-CARBON FLM 1/16W 39K-JB	R870	0100051M	RES.-CARBON FLM 1/8W 270-JB
⚠ R716	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	R871	0100057M	RES.-CARBON FLM 1/8W 470-JB
R717	0113708M	RESISTOR CARBON FILM SRD1/2P-B 20-J	R872	0100033M	RES.-CARBON FLM 1/8W 47-JB
R718	0113787M	RES. CARBON FLM 1/2P-B 33K-J	R873	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R719	0113787M	RES. CARBON FLM 1/2P-B 33K-J	R885	0100021M	RES.-CARBON FLM 1/8W 15-JB
R720	AT03411S	METAL OX. 220OHM 2W	R901	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
R721	0188122M	RES.-CARBON FLM 220-J 1/2W	R902	0147060	RES.-WIRE WOUND 2W 33-K
R722	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R903	0114281M	RESISTOR-CARBON FILM SRD 1/4P 100K-J
R723	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	⚠ R904	0147802	RES.-WIRE WOUND 15W 0.62-KM
R725	AT03611S	METAL OX. 6.8KOHM 3W	R905	0113772M	RES.-CARBON FLM SRD1/2P-B
R726	0114183M	RESISTOR-CARBON FILM SRD 1/4 P 8.2K-J	R906	0113772M	RES.-CARBON FLM SRD1/2P-B
R727	0100091M	RES.-CARBON FLM 1/8W 12K-JB	R907	0100023M	RES.-CARBON FLM 1/8W 18-JB
R728	0100079M	RES.-CARBON FLM 1/8W 3.9K-JB	R908	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R729	0114149M	RESISTOR-CARBON FILM SRD 1/4 PF 560-J	R909	0700038M	RES.-CARBON FLM 1/16W 680-JB
R730	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R910	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R731	0100127M	RES.-CARBON FLM 1/8W 390K-JB	R911	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R732	AT03251S	METAL OX. 220OHM 1W	R912	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R733	AT03251S	METAL OX. 220OHM 1W	R913	0700023M	RES.-CARBON FLM 1/16W 47-J
R734	0100127M	RES.-CARBON FLM 1/8W 390K-JB	R914	0700054M	RES.-CARBON FLM 1/16W 10K-JB
⚠ R737	0114041M	RESISTOR-CARBON FILM SRD 1/4P 10J	R915	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R740	0100121M	RES.-CARBON FLM 1/8W 220K-JB	R916	0700038M	RES.-CARBON FLM 1/16W 680-JB
R750	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	R917	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R751	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	R918	0100091M	RES.-CARBON FLM 1/8W 12K-JB
R752	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R919	0100089M	RES.-CARBON FLM 1/8W 10K-JB
R753	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R920	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R760	AT03417S	METAL OX. 390OHM 2W	R921	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R922	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA03	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R923	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA04	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R925	0113746M	RES.-CARBON FLM 1/2W 680-JB	RA05	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R926	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA06	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R929	0700029M	RES.-CARBON FLM 1/16W 150-JB	RA07	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R930	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RA08	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R931	0119695M	RES.-MTL OXIDE FLM 1W 0.47-F	RA09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R932	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R933	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA11	0700027M	RES.-CARBON FLM 1/16W 100-JB
R934	0113797M	RES.-CARBON FLM 1/2W 82K-JB	RA12	0700027M	RES.-CARBON FLM 1/16W 100-JB
R935	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RA13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R937	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA14	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R940	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R941	0700018M	RES.-CARBON FLM 1/16W 22-J	RA16	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R942	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RA17	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R943	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA18	0195939R	RMC73S-2A393JR
R944	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J	RA19	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R945	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J	RA20	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R946	0114205M	RESISTOR-CARBON FILM SRD 1/4 P 15K-J	RA21	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R948	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
⚠ R949	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA23	0195883R	RES 2125 CHIP 1/16W 220J TAPE
⚠ R950	0700039M	RES.-CARBON FLM 1/16W 820-JB	RA24	0195939R	RMC73S-2A393JR
R952	0700032M	RES.-CARBON FLM 1/16W 220-JB	RA25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R954	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA26	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R955	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA27	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R957	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA28	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R958	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA29	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R959	0113750M	RES.-CARBON FLM 1/2W 1K-JB	RA30	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R960	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA31	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R962	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA32	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R963	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA33	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R968	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA34	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R969	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA35	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R970	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA36	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R971	0700037M	RES.-CARBON FLM 1/16W 560-JB	RA37	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R972	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RA38	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R974	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA39	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R975	AT03419S	METAL OX. 470 OHM 2W	RA40	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R976	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA41	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R977	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RA42	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R979	0113770M	RESISTOR CARBON FILM SRD1/2P-B 6.8K-J	RA43	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R980	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA44	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R981	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA45	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R982	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	RA46	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R983	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA47	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R985	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA48	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R986	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)	RA49	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R987	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)	RA50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R988	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J	RA51	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R989	0700036M	RES.-CARBON FLM 1/16W 470-JB	RA52	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R990	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA53	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R991	0100089M	RES.-CARBON FLM 1/8W 10K-JB	RA54	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R992	AT03608S	METAL OX. 5.6KOHM 3W	RA55	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R993	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA56	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA01	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	RA57	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA02	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	RA58	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RA59	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RAD4	0195939R	RMC73S-2A393JR
RA60	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RAD5	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA61	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RAD6	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA62	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RAD7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA63	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RAD8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RA64	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE	RAD9	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA65	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE	RAE1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA66	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE	RAE2	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RA67	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE	RAE3	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RA68	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RC01	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RA69	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RC02	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RA70	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RC16	0195871R	RMC73S-2A750JR
RA71	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RC17	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RA72	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RC18	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RA73	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RC19	0195871R	RMC73S-2A750JR
RA74	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RC71	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RC89	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA76	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE01	AT03584S	METAL OX. 680OHM 3W
RA77	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE02	0700066M	RES.-CARBON FLM 1/16W 82K-JB
RA78	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE03	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RA79	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE04	0700035M	RES.-CARBON FLM 1/16W 390-JB
RA80	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE05	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RA81	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE06	0700031M	RES.-CARBON FLM 1/16W 180-JB
RA82	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE07	0700065M	RES.-CARBON FLM 1/16W 68K-JB
RA83	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE08	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RA84	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE09	0700039M	RES.-CARBON FLM 1/16W 820-JB
RA85	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE10	0700033M	RES.-CARBON FLM 1/16W 270-JB
RA86	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE11	0700033M	RES.-CARBON FLM 1/16W 270-JB
RA89	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE12	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RA90	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE13	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RA91	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE14	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RA92	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RA93	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE16	0113742M	RES.-CARBON FLM 1/2W 470-JB
RA94	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE18	0700036M	RES.-CARBON FLM 1/16W 470-JB
RA95	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE19	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RA96	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RE20	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RA97	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE21	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RA98	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE22	0700027M	RES.-CARBON FLM 1/16W 100-JB
RA99	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE23	0113701M	RESISTOR CARBON FILM SRD1/2P-B 10-J
RAA1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE24	0100039M	RES.-CARBON FLM 1/8W 82-JB
RAA2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE25	0188133M	RES.-CARBON FLM 1/2W 1.5K-JB
RAA3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE26	0188132M	RES.-CARBON FLM 1.2K-J 1/2W
RAA4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE27	0188155M	RES.-CARBON FLM 68K-JB
RAA5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE28	0188155M	RES.-CARBON FLM 68K-JB
RAA6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE29	0113776M	RESISTOR CARBON FILM SRD1/2P-B 12K-J
RAA7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE30	0100039M	RES.-CARBON FLM 1/8W 82-JB
RAC2	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE31	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB
RAC4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE32	0100067M	RES.-CARBON FLM 1/8W 1.2K-JB
RAC5	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE33	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RAC6	0195883R	RES 2125 CHIP 1/16W 220J TAPE	RE34	AT03571S	METAL OX. 220OHM 3W
RAC7	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RE35	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RAC8	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE36	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RAC9	0195939R	RMC73S-2A393JR	RE37	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RAD1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE38	AT03254S	METAL OX. 300OHM 1W
RAD2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE39	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RAD3	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE40	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RE41	0700035M	RES.-CARBON FLM 1/16W 390-JB	RG11	0195975R	RMC73S-2A105JR
RE43	0700039M	RES.-CARBON FLM 1/16W 820-JB	RG12	0195975R	RMC73S-2A105JR
RE45	0700027M	RES.-CARBON FLM 1/16W 100-JB	RG13	0195975R	RMC73S-2A105JR
RE46	0113746M	RES.-CARBON FLM 1/2W 680-JB	RG14	0195975R	RMC73S-2A105JR
RE47	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG15	0195975R	RMC73S-2A105JR
RF01	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RG16	0195975R	RMC73S-2A105JR
RF02	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RG19	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF03	0700036M	RES.-CARBON FLM 1/16W 470-JB	RG20	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RG21	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF07	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RG22	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF08	0700056M	RES.-CARBON FLM 1/16W 15K-JB	RG23	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF09	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG24	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RG25	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF11	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RG26	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF12	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RG27	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF13	0700056M	RES.-CARBON FLM 1/16W 15K-JB	RG28	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF14	0700025M	RES.-CARBON FLM 1/16W 68-J	RG29	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF15	AT03659M	RES.MTL GRAZD FLM 1/2W 390K	RG30	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF16	AT03659M	RES.MTL GRAZD FLM 1/2W 390K	RG31	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF17	AT03659M	RES.MTL GRAZD FLM 1/2W 390K	RG32	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF18	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RG33	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF19	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RG34	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF20	0700027M	RES.-CARBON FLM 1/16W 100-JB	RG35	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF21	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RG36	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF22	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RG37	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF23	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RG38	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF25	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RG39	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF26	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RG40	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF27	AT03661M	RES.MTL GRAZD FLM 1/2W 470K	RG41	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF28	0700061M	RES.-CARBON FLM 1/16W 33K-JB	RG42	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF29	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RG43	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF30	0100103M	RES.-CARBON FLM 1/8W 39K-JB	RG44	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF31	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	RG45	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF33	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG46	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RF34	0187100M	RES.-CARBON FLM 1/16W 30K-JB	RG47	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE
RF35	0187074M	RES.-CARBON FLM 1/16W 2.4K-JB	RG48	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE
RF36	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG49	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF37	0700039M	RES.-CARBON FLM 1/16W 820-JB	RG50	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RF40	AT03241S	METAL OX. 91.0OHM 1W	RG51	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE
RF41	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RG52	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE
RF42	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	RG54	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RF43	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RG55	0188127M	RES.-CARBON FLM 560-JB 1/2W
RF44	0700061M	RES.-CARBON FLM 1/16W 33K-JB	RG56	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RF45	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RG57	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RF46	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG58	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RF47	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RG59	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RG01	0195975R	RMC73S-2A105JR	RG60	0195975R	RMC73S-2A105JR
RG02	0195975R	RMC73S-2A105JR	RG61	0195975R	RMC73S-2A105JR
RG03	0195975R	RMC73S-2A105JR	RG62	0195975R	RMC73S-2A105JR
RG04	0195975R	RMC73S-2A105JR	RG63	0195975R	RMC73S-2A105JR
RG05	0195975R	RMC73S-2A105JR	RG64	0195975R	RMC73S-2A105JR
RG06	0195975R	RMC73S-2A105JR	RG65	0195975R	RMC73S-2A105JR
RG07	0195975R	RMC73S-2A105JR	RG66	0195975R	RMC73S-2A105JR
RG08	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RG67	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RG09	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RG68	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RG10	0195975R	RMC73S-2A105JR	RG69	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RG70	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK39	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RG71	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE	RK40	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG72	0195921R	RESISTOR MINI-CHIP RMC1/16 7.5K-J TAPE	RK42	AT03199S	METAL OX. 2.7OHM 1W
RG73	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK43	AT03571S	METAL OX. 220OHM 3W
RG74	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK44	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG75	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK46	AT03197S	METAL OX. 2.2OHM 1W
RG76	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK47	AT03566S	METAL OX. 150OHM 3W
RG77	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK48	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG78	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK50	AT03202S	METAL OX. 3.3OHM 1W
RG79	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK51	AT03571S	METAL OX. 220OHM 3W
RG80	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG81	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK54	AT03197S	METAL OX. 2.2OHM 1W
RG82	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK55	AT03566S	METAL OX. 150OHM 3W
RG83	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG84	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK58	AT03204S	METAL OX. 3.9OHM 1W
RG85	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RK59	AT03571S	METAL OX. 220OHM 3W
RG86	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RG87	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RK62	AT03202S	METAL OX. 3.3OHM 1W
RG88	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RK63	AT03566S	METAL OX. 150OHM 3W
RG91	0188127M	RES.-CARBON FLM 560-JB 1/2W	RK64	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK01	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RK90	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK02	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RK99	0113698M	RES.-CARBON FLM 1/2W 8.2-J
RK03	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL10	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK04	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL11	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK05	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL12	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK06	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL13	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK07	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL14	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL15	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK09	0100057M	RES.-CARBON FLM 1/8W 470-JB	RL16	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RL17	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RL20	0100133M	RES.-CARBON FLM 1/8W 680K-JB
RK12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RL21	0100121M	RES.-CARBON FLM 1/8W 220K-JB
RK13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RL22	0100133M	RES.-CARBON FLM 1/8W 680K-JB
RK14	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	RL23	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL24	0100133M	RES.-CARBON FLM 1/8W 680K-JB
RK16	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RL25	0100121M	RES.-CARBON FLM 1/8W 220K-JB
RK17	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RL26	0100133M	RES.-CARBON FLM 1/8W 680K-JB
RK18	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	RL27	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK19	0100125M	RES.-CARBON FLM 1/8W 330K-JB	RL30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RL31	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK23	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RL32	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK24	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	RL33	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK25	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RL34	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK26	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RL35	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK27	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RL36	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK28	0700027M	RES.-CARBON FLM 1/16W 100-JB	RL37	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK29	0700027M	RES.-CARBON FLM 1/16W 100-JB	RL38	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK30	0700027M	RES.-CARBON FLM 1/16W 100-JB	RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK31	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM02	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RK32	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM03	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RK33	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RK34	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM05	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RK35	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK36	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RK37	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK38	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RM10	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RS18	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RM11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS19	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RM12	0100125M	RES.-CARBON FLM 1/8W 330K-JB	RS20	0195932R	RES. 2125CHIP 1/10W 20KJ TAPE
RM13	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB	RS21	0195939R	RMC73S-2A393JR
RM14	0100125M	RES.-CARBON FLM 1/8W 330K-JB	RS22	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RS23	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RM20	0100041M	RES.-CARBON FLM 1/8W 100-JB	RS24	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RM21	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS25	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RM22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS26	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RM23	0700064M	RES.-CARBON FLM 1/16W 56K-JB	RS27	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RM24	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RS28	0100059M	RES.-CARBON FLM 1/8W 560-JB
RM25	0100123M	RES.-CARBON FLM 1/8W 270K-JB	RS29	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RM26	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RS30	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RM27	0700064M	RES.-CARBON FLM 1/16W 56K-JB	RS31	AT03669M	RES.MTL GRAZD FLM 1/2W 2.2M
RM28	0100123M	RES.-CARBON FLM 1/8W 270K-JB	RS32	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
RM29	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS33	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
RM30	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS36	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
RM31	0100041M	RES.-CARBON FLM 1/8W 100-JB	RS37	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
RM34	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RS38	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RM35	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS39	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RM36	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RS40	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS41	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RM40	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RS42	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RN01	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RS43	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RN02	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS45	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RN03	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RS46	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RN04	0100113M	RES.-CARBON FLM 1/8W 100K-JB	RS47	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RN05	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	RS70	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RN06	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RS71	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RN07	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RS78	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RN08	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	RS79	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RN09	0700061M	RES.-CARBON FLM 1/16W 33K-JB	RS80	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RN10	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RS81	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RN11	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RS82	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RN12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RS97	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RN13	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RS98	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RN14	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RSA1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RN15	0700064M	RES.-CARBON FLM 1/16W 56K-JB	RSA2	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RN16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RSA3	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RN17	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RSA5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RN18	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RSC5	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RS01	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RSC6	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RS02	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RSC8	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RS03	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RSC9	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RS04	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RS05	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RS06	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RS07	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE5	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RS08	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE6	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RS09	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RSE8	0119505G	RES.-MTL OXIDE FLM 2.2-J
RS11	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RSE9	0119505G	RES.-MTL OXIDE FLM 2.2-J
RS13	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RSF1	0114161M	RES.-CARBON FLM 1/4W 1K-JB
RS14	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RSF2	0114161M	RES.-CARBON FLM 1/4W 1K-JB
RS15	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RSF5	0195945R	RES 2125 CHIP 1/16W 68KJ TAPE
RS16	0195975R	RMC73S-2A105JR	RSF6	0195945R	RES 2125 CHIP 1/16W 68KJ TAPE
RS17	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	RSH4	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RSH5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RSH7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY14	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RSH9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RSM1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY16	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RSM2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY17	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RSM3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY18	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RSM4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY19	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSM5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY20	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RSM6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY21	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RSM7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RSM9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY23	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RSN1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY24	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSN2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RSN3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY26	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
RSN4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY27	0195915R	RESISTOR MINI-CHIP RMC1/16 4.3K-J TAPE
RSN5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY28	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
RSN6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY29	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RSN8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RSP1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY31	0195871R	RMC73S-2A750JR
RSP2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY32	0195871R	RMC73S-2A750JR
RSP3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY33	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RSP4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY34	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RSP5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY35	0195871R	RMC73S-2A750JR
RSP6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY36	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RSP7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY37	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RSP8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY38	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSP9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY39	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RSR1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY40	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RSR2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY41	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RSR3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY42	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RSR5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY43	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSR6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY44	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RSR7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY46	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RSR8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY48	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RSR9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSS1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY51	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RSS2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY52	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RSS3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY53	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RSS4	0700027M	RES.-CARBON FLM 1/16W 100-JB	RY55	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RSS5	0700027M	RES.-CARBON FLM 1/16W 100-JB	RY56	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RST1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY57	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RST2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY61	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RST3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RST4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY64	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY01	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY65	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY02	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY66	0195879R	RES 2125 CHIP 1/16W 150J TAPE
RY03	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY67	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY04	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY68	0700034M	RES.-CARBON FLM 1/16W 330-JB
RY05	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY69	0700032M	RES.-CARBON FLM 1/16W 220-JB
RY06	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY70	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY07	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY73	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY08	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY74	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY77	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RY11	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY78	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RY12	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY79	0195875R	RES 2125 CHIP 1/16W 100J TAPE

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RY81	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RYH2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY83	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RYH3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY84	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RYH4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY85	0195871R	RMC73S-2A750JR	RYH5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY86	0195871R	RMC73S-2A750JR	RYH6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY87	0195871R	RMC73S-2A750JR	RYH7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY88	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RYH8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY89	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RYH9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY90	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE	RYJ1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RY91	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE	RYJ2	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RY96	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RYJ3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY98	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RYJ4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY99	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE	RYJ5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE	RYJ6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYA2	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RYJ7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA3	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RYJ8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA4	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RYJ9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA5	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE	RYK1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RYK2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYA7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE			**COILS**
RYA8	0195897R	RES 2125 CHIP 1/16W 820J TAPE	L002	2123781R	FILTER COIL 101K
RYA9	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE	L003	2123781R	FILTER COIL 101K
RYC1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE	L004	BH00697R	COIL 100UH
RYC2	0195875R	RES 2125 CHIP 1/16W 100J TAPE	L101	BH00697R	COIL 100UH
RYC3	0195891R	RES 2125 CHIP 1/16W 470J TAPE	L102	BH00697R	COIL 100UH
RYC4	0195891R	RES 2125 CHIP 1/16W 470J TAPE	L103	2123781R	FILTER COIL 101K
RYC5	0195889R	RES.2125 CHIP 1/10W 390J TAPE	L104	2123781R	FILTER COIL 101K
RYC6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	L105	2123781R	FILTER COIL 101K
RYC7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	L106	2123781R	FILTER COIL 101K
RYC8	0195897R	RES 2125 CHIP 1/16W 820J TAPE	L107	2123781R	FILTER COIL 101K
RYC9	0195875R	RES 2125 CHIP 1/16W 100J TAPE	L110	2123781R	FILTER COIL 101K
RYE2	0195875R	RES 2125 CHIP 1/16W 100J TAPE	L111	2123781R	FILTER COIL 101K
RYE3	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L303	BH00697R	COIL 100UH
RYE4	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L401	BH01341M	COIL FERRITE BEADS
RYE5	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L402	BH01341M	COIL FERRITE BEADS
RYE6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	L403	BH01341M	COIL FERRITE BEADS
RYE7	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L503	BH00697R	COIL 100UH
RYE8	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L504	BH00697R	COIL 100UH
RYE9	0195893R	RES 2125 CHIP 1/16W 560J TAPE	L505	BH00697R	COIL 100UH
RYF1	0700025M	RES.-CARBON FLM 1/16W 68-J	L506	BH00697R	COIL 100UH
RYF2	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE	L507	BH00697R	COIL 100UH
RYF3	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	L508	2123112M	COIL-AXIAL 47UH-K
RYF4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	L509	BH00697R	COIL 100UH
RYF5	0196861R	RES 2125CHIP 1/10W 75-F TAPE	L601	BZ00843	CHOKE COIL 330UH SL1720
RYF6	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	L602	2123468M	FERRITE BEADS CORE LEAD 0.8MH
RYF7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	L701	BH00212R	FILTER COIL 68UH
RYF8	0196861R	RES 2125CHIP 1/10W 75-F TAPE	L702	2123468M	FERRITE BEADS CORE LEAD 0.8MH
RYF9	0196861R	RES 2125CHIP 1/10W 75-F TAPE	L703	2123468M	FERRITE BEADS CORE LEAD 0.8MH
RYG1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	L704	2123468M	FERRITE BEADS CORE LEAD 0.8MH
RYG4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	L705	BZ00846	CHOKE COIL 1000UH SL1720
RYG5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	L706	BH00217R	FILTER COIL 180UH
RYG6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	L708	BH00205R	FILTER COIL 22UH
RYG7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	L709	BZ00317	LINEARITY COIL 140UH-W
RYG8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	L710	BZ00318	LINEARITY COIL 50UH-W
RYG9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	L720	BH00228R	COIL 332K-1T7608A
RYH1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	L803	BH00699R	COIL 150UH

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
L833	BH00699R	COIL 150UH	LY04	BH00697R	COIL 100UH
L863	BH00699R	COIL 150UH	LY05	BH00697R	COIL 100UH
⚠ L901	BZ01841	LX-LINE FILTER(102)	LY06	2123781R	FILTER COIL 101K
⚠ L902	BZ01831	LX-LINE FILTER(382)	LY07	BH00697R	COIL 100UH
⚠ L903	BZ01841	LX-LINE FILTER(102)			**INTEGRATED CIRCUITS**
L905	BH00201R	FILTER COIL 10UH	I001	0000000	UNDECIDED
L906	BH00201R	FILTER COIL 10UH	I004	CP05272U	E2PROM M24C16-BN6
L907	BH00214R	FILTER COIL 100UH	I006	CK07131R	ANALOG MONO. IC (MC14053BFEL)
L909	BV00901	PL-CHOPPER COIL 200UH/2A	I007	2000541	IC M51951BSL
L910	BH00212R	FILTER COIL 68UH	I008	2020342	IC MM1115XS
L911	BV00901	PL-CHOPPER COIL 200UH/2A	I102	CP05243U	Z9035612PSCR_B
L912	BH00214R	FILTER COIL 100UH	I103	2000541	IC M51951BSL
L913	BH00214R	FILTER COIL 100UH	I105	2015495R	IC HD74HC32FPEL
L914	BH00214R	FILTER COIL 100UH	I106	CP05571	IC BA17805
L917	BH00214R	FILTER COIL 100UH	I301	2020341	IC MM1111XS
L919	BH00201R	FILTER COIL 10UH	I401	2004751	IC TA8200AH
L921	2161152	FILTER COIL	I501	CP03552U	IC TA1222BN
L922	BH00214R	FILTER COIL 100UH	I503	CK08951R	MM1389XFBE
L924	2123469M	FERRITE BEADS CORE 2.3UH	I601	2003541	IC LA7838
L925	2123468M	FERRITE BEADS CORE LEAD 0.8MH	I602	CP06351U	ANALOG MONOLITHIC IC BA10393
L926	2123468M	FERRITE BEADS CORE LEAD 0.8MH	⚠ I901	CZ00451	HYBRID IC (STR-M6811A)
L927	2123468M	FERRITE BEADS CORE LEAD 0.8MH	⚠ I902	2000465	IC PS2501-1 (KC/LC)
L930	2123469M	FERRITE BEADS CORE 2.3UH	⚠ I903	2000465	IC PS2501-1 (KC/LC)
L931	2123469M	FERRITE BEADS CORE 2.3UH	⚠ I904	2000465	IC PS2501-1 (KC/LC)
L932	2123468M	FERRITE BEADS CORE LEAD 0.8MH	⚠ I905	2381349	HYBRID IC (SE120N:+B CONT.)
LA02	BH00697R	COIL 100UH	I908	CP05573	IC BA17812
LA03	BH00697R	COIL 100UH	I909	1360891	IC-NJM7912FA
LA06	BH00697R	COIL 100UH	⚠ I910	CP03912F	ANALOG MONOLITHIC IC (SI-8402L)
LE01	2123097M	LAL02 TYPE AXIAL COIL 3.9UH-K	I912	CP03923F	ANALOG MONOLITHIC IC (SI-8090S)
LE02	2123468M	FERRITE BEADS CORE LEAD 0.8MH	I913	CP03922F	ANALOG MONOLITHIC IC (SI-8050S)
LE03	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IA02	CK31991R	ANALOG MONOLITHIC IC BU4052BCF-E2
LE04	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG01	CP02771U	GRAPHICEQULIZER IC
LF01	BH00229R	COIL 472K-1T7608A	IG02	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LF02	BH00229R	COIL 472K-1T7608A	IG03	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LG01	2123781R	FILTER COIL 101K	IG04	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LG02	2123781R	FILTER COIL 101K	IG05	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK01	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG06	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK02	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG07	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK03	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG08	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK04	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG09	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK05	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG10	CP02771U	GRAPHICEQULIZER IC
LK06	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG11	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK07	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG12	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK08	2123468M	FERRITE BEADS CORE LEAD 0.8MH	IG13	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK09	2123469M	FERRITE BEADS CORE 2.3UH	IG14	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK10	2123469M	FERRITE BEADS CORE 2.3UH	IG15	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LK11	2123469M	FERRITE BEADS CORE 2.3UH	IK01	CP05571	IC BA17805
LK12	2123469M	FERRITE BEADS CORE 2.3UH	IK02	CP01631R	ICL-PST9142
LL01	BH00697R	COIL 100UH	IK03	CP05571	IC BA17805
LS01	BH00697R	COIL 100UH	IK04	CZ00431	HYBRID IC (STK392-110)
LS02	BH00697R	COIL 100UH	IK05	CZ00431	HYBRID IC (STK392-110)
LS03	BH00697R	COIL 100UH	IS01	CP00801U	IC LA2785
LS05	BH00697R	COIL 100UH	IS02	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LS06	BH00697R	COIL 100UH	IS03	CP00791U	IC LV1010N
LY01	BH00697R	COIL 100UH	IS04	CK07141R	ANALOG MONO. IC (BA4558F-E2)
LY03	BH00697R	COIL 100UH	IS05	2020001	IC TDA9860

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
IS08	CK07141R	ANALOG MONO. IC (BA4558F-E2)	#50	MQ00313	RUBBER SPACER(SIDE)
IS09	CP03931U	AN5262N	#60	H390061	SPECIAL CUSHION CHLOR
IS10	2020001	IC TDA9860	#70	4524912	HEX FLANGE HEAD B T-S 4*16 SWCH16A
IS11	2004751	IC TA8200AH	#72	4137977	4*25 SELF-TAPPING SCREW
IS12	CP02601	AN5285K	#80	KS00164	MIRROR AP7X(53")
IY01	2020452	ANALOG MONOLITHIC IC (CXA1545AS)	#80	KS00163	MIRROR GLASS (60SX72B/73K) GLASS
IY02	2003423	IC UPC7893AHF ICL	#96	3857509	LENS SPACER T1.0 PVC
		TRANSFORMERS	A	JT09162	AP93 SIGNAL PWB ASY
⚠ T701	2260291U	HORIZONTAL DRIVE TRANS.	A	JT09173	AP94 POWER/DEFLEC.PWB ASY
⚠ T702	BW00632	HFL1735YP-RC	A013	UE05453	AP93 SIGNAL B.ASY
⚠ T703	2272762	TRANS.-SATURBLE	A013L	LUE0545	AP9* SIGNAL B.ASY
⚠ T901	BT00751	COIL PT-EE54F19US-AP74	A023	JT09173	AP94 POWER/DEFLEC.PWB ASY
		FUSE	A023L	LJT0917	AP9* POWER DEF.PWB ASYC
⚠ F901	2722358	FUSE AC05A	A1	W003650	PRINT PWB HOLE SPEC.
		SPARK GAPS	A1	W003650	PRINT PWB HOLE SPEC.
⚠ G701	CJ00071R	SPARK GAP AG15PC-152FS-K2M	A1	W003650	PRINT PWB HOLE SPEC.
⚠ G801	CJ00071R	SPARK GAP AG15PC-152FS-K2M	B	JK05561	AP93 SIGNAL PWB P#1
⚠ G802	CJ00071R	SPARK GAP AG15PC-152FS-K2M	B	JK05492	AP9* POWER DEF.DIG.PWB P#2
⚠ G831	CJ00071R	SPARK GAP AG15PC-152FS-K2M	B	JK05501	AP9* TERMINAL PWB P#1
⚠ G832	CJ00071R	SPARK GAP AG15PC-152FS-K2M	B	JK05511	AP9* CPT PWB P#1
⚠ G861	CJ00071R	SPARK GAP AG15PC-152FS-K2M	B	JK05541	AP9* SURROUND PWB P#1
⚠ G862	CJ00071R	SPARK GAP AG15PC-152FS-K2M	⚠ E10B	2776543	MAG-VM(C-C)2/4P1.8UH
⚠ GF01	CJ00072R	SPARK GAP 252FB-K2M	⚠ E10G	2776543	MAG-VM(C-C)2/4P1.8UH
			⚠ E10R	2776543	MAG-VM(C-C)2/4P1.8UH
		SWITCHES	⚠ E11G	3811322	DY INSULATOR
SK01	FE00061	1P TACT SWITCH	⚠ E12B	BY00442	DY-V80-6.7SS(3.00)L
SM01	FE00001R	PUSH SWITCH	⚠ E12G	BY00442	DY-V80-6.7SS(3.00)L
SM02	FE00001R	PUSH SWITCH	⚠ E12R	BY00442	DY-V80-6.7SS(3.00)L
SM03	FE00001R	PUSH SWITCH	E201	FQ00021	BATTERY(R6P-AA)
SM04	FE00001R	PUSH SWITCH	E2B	EZ00911	COZ-ANODE COVER SP45-S3
SM05	FE00001R	PUSH SWITCH	E2G	EZ00911	COZ-ANODE COVER SP45-S3
SM06	FE00001R	PUSH SWITCH	E2R	EZ00911	COZ-ANODE COVER SP45-S3
SM07	FE00001R	PUSH SWITCH	E301	HL00715	RML CLU-615MP
SM09	FE00091	SWP01N01-EVQQKH08Q	E3B	2958351	CONN. W/WIRE MINI 2J
		MISCELLANEOUS	E3G	2958351	CONN. W/WIRE MINI 2J
#10	QD03841	REAR COVER AP7X ABS(53")	E3R	2958351	CONN. W/WIRE MINI 2J
#10	QD04112	60" BACK COVER AP74 PS(61")	⚠ E701	AZ00107M	PROTECTOR CRXT491004
#100	9553793	ACETATE CLOTH TAPE NO.156 W16 (BLACK)	⚠ E801	EY00941	CRT-SOCKET
#100	9449545	NITTO TAPE NO.5 W20 (BLACK)(61")	⚠ E831	EY00941	CRT-SOCKET
#113	PH06856	TERMINAL HOLDER AP94 SASSY	⚠ E861	EY00941	CRT-SOCKET
#121	PH06314	TERMINAL HOLDER AP9X/ZP9* PS	⚠ E901	EV00901	COD-AP9X-B-160
#133	PH06756	DECO. PLATE AV AAP94 PVC	E92F	3446473	HEATSINK H30 P10
#141	4519511	4X12 B TAPPING SCREW STEEL	E92N	4520883	3*12 SCREW WITH WASHER
#145	4519503	3X12 B TAPPING SCREW SWCH15A	E93F	3446473	HEATSINK H30 P10
#146	4519503	3X12 B TAPPING SCREW SWCH15A	E93N	4520883	3*12 SCREW WITH WASHER
#147	4159423	SCR NO 3X12 FL/FLT	E98F	MC00104	HEAT SINK P10 H45 19 A6063S-75
#151	NA21011	SP PWB SUP BRACKET AP74 A SECC20/20E	E98N	4520883	3*12 SCREW WITH WASHER
#153	4159423	SCR NO 3X12 FL/FLT	⚠ E991	AZ00109M	PROTECTOR CRXT491007
#161	3813121	LEAD CLAMPER 2135 PA	⚠ E994	AZ00104M	PROTECTOR(CRXT491002)
#163	3813121	LEAD CLAMPER 2135 PA	⚠ E995	AZ00109M	PROTECTOR CRXT491007
#166	NA44081	SUB PWB SUP BRACKET AP93 SECC20/20E	⚠ E996	AZ00109M	PROTECTOR CRXT491007
#167	4520881	M3*8 SCREW WITH WASHER	⚠ E997	AZ00109M	PROTECTOR CRXT491007
#171	4329271	WASHER (F) C2720R	⚠ E998	AZ00109M	PROTECTOR CRXT491007
#172	4522901	6 NUT (F) BSBM	⚠ E999	AZ00109M	PROTECTOR CRXT491007
#20	NA11681	MIRROR METAL AP7 A SECC20/20E	E99F	MC00104	HEAT SINK P10 H45 19 A6063S-75
#30	NA11691	MIRROR METAL AP7 B SECC20/20E	E99N	4520883	3*12 SCREW WITH WASHER

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
E9A	MA00841	POWER HEAT SINK AP73 A1100P-H14	N134G	4491972	PRT METAL (AP74)
E9DN	4520883	3*12 SCREW WITH WASHER	N134R	4491972	PRT METAL (AP74)
E9DW	4269926	WASHER PL-1252	N151B	4526322	M8*10 SEAL SCREW SUS
E9IN	4520883	3*12 SCREW WITH WASHER	N151G	4526322	M8*10 SEAL SCREW SUS
E9QF	MC00104	HEAT SINK P10 H45 19 A6063S-75	N151R	4526322	M8*10 SEAL SCREW SUS
E9QN	4520883	3*12 SCREW WITH WASHER	N154B	MJ01461	PRT SCREW H810221
EAN	2974056S	3J CONNE SEH UL1007 L=160	N154G	MJ01461	PRT SCREW H810221
⚠ EANT	HP00341	ANT SW	N154R	MJ01461	PRT SCREW H810221
EB	2997977	1J MINI CONNE. L=910	N156B	KL00981	PRT SPRING H830091
EBG1	EF08271	CO-06B-B2R5-301	N156G	KL00981	PRT SPRING H830091
EBG2	2966821	4J CONNE. L=300	N156R	KL00981	PRT SPRING H830091
ED94	EY00791	PJX-LEAD-PLUGPIN	N157B	4524913	HEX. FLANGE HEAD B-TIGHT TN E RED SWCH16A
ED95	EY00791	PJX-LEAD-PLUGPIN	N157G	4524913	HEX. FLANGE HEAD B-TIGHT TN E RED SWCH16A
ED99	EY00791	PJX-LEAD-PLUGPIN	N157R	4524913	HEX. FLANGE HEAD B-TIGHT TN E RED SWCH16A
EDS1	2908947	12J CONNE. L=1000	N160	3733243	NP3 LEAD CRAMP (V0)
EF91	FP00031R	FUSE HOLDER TP00351-51	N2	MD03061	SHIELD PLATE AP7X A TC-30
EFC	2974086S	CONNE 4P L=160	N200B	KQ00562K	SBA LENS S.ASY B(53")
EGR1	EF08381	CO-05B-B2R5-301	N200B	KQ00732K	SBB LENS SASS B(61")
EGR2	2966821	4J CONNE. L=300	N200G	KQ00561K	SBA LENS S.ASY RG(53')
EST	2908776	7J PH CONNE L=160	N200G	KQ00731K	SBB LENS SASS RG(61")
ETU1	2979173	PLUG WITH COAXIAL CABLE	N200R	KQ00561K	SBA LENS S.ASY RG(53")
ETU2	2979172	MINI PLUG WITH COAXIAL CABLE	N200R	KQ00731K	SBB LENS SASS RG(61")
H006	2791754R	CONDENSER WITH 3 TERMINAL 100PF	N201	QR29801	53UX59B-511 INST BOOK
⚠ H901	2793312	CP-EXN-471P365L	N201	QR29811	53UX59B-501 INST BOOK(FRENCH)
HM01	CZ00523	ANALOG MONOLITHIC IC SBX1981-52P	N202	3611877	POLYETHLENE COVER
JS01	ER00121	2L4P LEVER TERMINAL	N202B	KQ00382	SBA-2 LENS B
JY01	ES00184	JACK 3S-17US AP94	N202G	KQ00381	SBA-2 LENS RG
JY02	ES00022	3P(SW) PIN JACK WITH S	N202R	KQ00381	SBA-2 LENS RG
N1	MD03052	SHIELD CASE AP7X B TC-30	N203B	KQ00392	SBA-3 LENS B
N101B	ND00123	SBA BRACKET (R/B) 50"	N203B	KQ00371K	SBA-1 LENS (W)(53")
N101B	ND00124	SBB BRACKET (R/B) 60"	N203B	KQ00431K	SBB-1 LENS (W)(61")
N101G	ND00112	SBA BRACKET G	N203G	KQ00391	SBA-3 LENS RG
N101R	ND00123	SBA BRACKET (R/B) 50"	N203G	KQ00372K	SBA-1 LENS (G)(53")
N101R	ND00124	SBB BRACKET (R/B) 60"	N203G	KQ00432K	SBB-1 LENS (G)(61")
N111B	3810112	HP BELLOWS STAY	N203R	KQ00391	SBA-3 LENS RG
N111G	3810112	HP BELLOWS STAY	N203R	KQ00373K	SBA-1 LENS (R)(53")
N111R	3810112	HP BELLOWS STAY	N203R	KQ00433K	SBB-1 LENS (R)(61")
N121B	4738241K	ORING PRX	N204B	SU01401	SB1 LENS TRAY
N121G	4738241K	ORING PRX	N204B	KQ00402	SBA-4 LENS B(53")
N121R	4738241K	ORING PRX	N204B	KQ00442	SBB-4 LENS B(61")
N123B	KX00063	SB LENS SEAL	N204G	SU01401	SB1 LENS TRAY
N123G	KX00063	SB LENS SEAL	N204G	KQ00401	SBA-4 LENS RG(53")
N123R	KX00063	SB LENS SEAL	N204G	KQ00441	SBB-4 LENS RG(61")
N125B	4621121	BELLOWS R EPDM	N204R	SU01401	SB1 LENS TRAY
N125G	4621121	BELLOWS R EPDM	N204R	KQ00401	SBA-4 LENS RG(53")
N125R	4621121	BELLOWS R EPDM	N204R	KQ00441	SBB-4 LENS RG(61")
N127B	4618311	O RING (P9) FLUORO RUBBER	N205B	SG05542	
N127G	4618311	O RING (P9) FLUORO RUBBER	N205B	KQ00412	SBA-5 LENS B
N127R	4618311	O RING (P9) FLUORO RUBBER	N205G	SG05542	
N129B	4618321	PAD RUBBER CHLOROPRENE RU	N205G	KQ00411	SBA-5 LENS RG
N129G	4618321	PAD RUBBER CHLOROPRENE RU	N205R	SG05542	
N129R	4618321	PAD RUBBER CHLOROPRENE RU	N205R	KQ00411	SBA-5 LENS RG
N131B	NA20632	SB LENS FIX METAL	N206B	KQ00422	SBA-6 LENS B(53")
N131G	NA20632	SB LENS FIX METAL	N206B	KQ00452	SBB-6 LENS B(61")
N131R	NA20632	SB LENS FIX METAL	N206G	KQ00421	SBA-6 LENS RG(53")
N134B	4491972	PRT METAL (AP74)	N206G	KQ00451	SBB-6 LENS RG(61")

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PART NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
N206R	KQ00421	SBA-6 LENS RG(53")	N715	NA20921	CHASSIS PWB BKT AP7X L1 SECC20/20E
N206R	KQ00451	SBB-6 LENS RG(61")	N721	4491082	CHASSIS PWB BKT FB2 SECC20/20E
N207B	KQ00491	SBA IN-BARREL(53")	N725	NA03131	CHAS PWB BRKT AP5 BB1 SECC20/20E
N207G	KQ00491	SBA IN-BARREL(53")	N730	4159427	3X10 SCREW WITH WASHER STEEL
N207R	KQ00491	SBA IN-BARREL(53")	N740	4531761	SCREEN 3X16 TAPPING W/S-WASHER STEEL
N208B	KQ00501	SBA OUTER BARREL	N745	2781697	YC20A INSULATION WASHER
N208G	KQ00501	SBA OUTER BARREL	N801	3763751	SK BINDER
N208R	KQ00501	SBA OUTER BARREL	N802	3446473	HEATSINK H30 P10
N209B	MJ00591	FOCUS LOCK SCREW	N803	4520883	3*12 SCREW WITH WASHER
N209G	MJ00591	FOCUS LOCK SCREW	N901	3782714	PCB SUPPORT 10S NYLON
N209R	MJ00591	FOCUS LOCK SCREW	NE01	3446473	HEATSINK H30 P10
N210B	MJ00592	FOCUS GIDE SCREW	NE02	4520883	3*12 SCREW WITH WASHER
N210G	MJ00592	FOCUS GIDE SCREW	NK01	3446473	HEATSINK H30 P10
N210R	MJ00592	FOCUS GIDE SCREW	NK02	3446473	HEATSINK H30 P10
N211B	KQ00751	SBB IN-BARREL(61")	NK03	4520883	3*12 SCREW WITH WASHER
N211G	KQ00751	SBB IN-BARREL(61")	NK04	4520883	3*12 SCREW WITH WASHER
N211R	KQ00751	SBB IN-BARREL(61")	NK05	MC00192	CONV.HEAT SINK AP73B A6063S-T5
N301B	9483051	COOLANT (GE-55)	NK06	4520885	3*16 SCREW WITH WASHER
N301G	9483051	COOLANT (GE-55)	NK07	4531761	SCREEN 3X16 TAPPING W/S-WASHER STEEL
N301R	9483051	COOLANT (GE-55)	NK08	NA20781	CONV. IC SUP. BRkt AP74 SECC20/20E
N401	3442022	SOUND HEAT SINK 2CH	NM71	3816161	G9 EE HOLDER (S)
N401A	4520883	3*12 SCREW WITH WASHER	NM72	NJ01171	LED HOLDER A5WS
N406B	3335321	GROUNDING SPRING	NS01	MC00132	SURROUND HEAT SINK 45 A6063S-T5
N406G	3335321	GROUNDING SPRING	NS01A	4520883	3*12 SCREW WITH WASHER
N406R	3335321	GROUNDING SPRING	P001	2663821	2P SUB MINI PLUG PIN
N409B	4159411	SCREW 3*8 KNURLED TAPPING SWRM	P801	2961141	2P PLUG PIN WITH BASE
N409G	4159411	SCREW 3*8 KNURLED TAPPING SWRM	P802	2661756	1P PLUG PIN WITH BASE
N409R	4159411	SCREW 3*8 KNURLED TAPPING SWRM	P831	2961141	2P PLUG PIN WITH BASE
N426B	3875441	LEAD CLAMPER	P832	2661756	1P PLUG PIN WITH BASE
N426G	3875441	LEAD CLAMPER	P861	2961141	2P PLUG PIN WITH BASE
N426R	3875441	LEAD CLAMPER	P862	2661756	1P PLUG PIN WITH BASE
N501B	KQ00771	SB STOPPER	⚠ P901	ED01851	PLUG 5289-2A
N501G	KQ00771	SB STOPPER	PB	2661756	1P PLUG PIN WITH BASE
N501R	KQ00771	SB STOPPER	PB	2661756	1P PLUG PIN WITH BASE
N502B	QN01333	LENS LABEL B	PCB	ED00572	CP-TAC-L15X-A1
N502G	QN01334	LENS LABEL RG	PCB	2903544	4P PLUG PIN WITH BASE
N502R	QN01334	LENS LABEL RG	PCB	ED00512	CP-TAC-L15P-A1
N503B	SU01391	SB SASS TOP COVER	PCC	ED00576	CP-TAC-L20X-A1
N503G	SU01391	SB SASS TOP COVER	PCC	ED00516	CP-TAC-L20P-A1
N503R	SU01391	SB SASS TOP COVER	PCD	ED00576	CP-TAC-L20X-A1
N504B	SU01392	SB SASS BOTTOM COVER	PCD	ED00516	CP-TAC-L20P-A1
N504G	SU01392	SB SASS BOTTOM COVER	PCG	2903544	4P PLUG PIN WITH BASE
N504R	SU01392	SB SASS BOTTOM COVER	PCR	2903544	4P PLUG PIN WITH BASE
N505B	SG05541	SB SASS CARTON BOX	PCX	ED00572	CP-TAC-L15X-A1
N505G	SG05541	SB SASS CARTON BOX	PDC	ED00565	CP-TAC-L09X-A1
N505R	SG05541	SB SASS CARTON BOX	PDG	ED00572	CP-TAC-L15X-A1
N506B	KQ00951	SB5 APERTURE STOP	PDS	ED00565	CP-TAC-L09X-A1
N506G	KQ00951	SB5 APERTURE STOP	PDS1	2959062	PIN POST (PH 12P)
N506R	KQ00951	SB5 APERTURE STOP	PDS1	2959062	PIN POST (PH 12P)
N601	3442081	HEAT SINK (V) A2	PFC	2902263	PLUG PIN SUB MINI 4P
N602	4520881	M3*8 SCREW WITH WASHER	PFJ	2902268	PLUG PIN SUB MINI 9P
N701	MA00851	HEAT SINK AP73 (H)A1100P-H14	PFJ	2902248	PLUG PIN SUB MINI9P
N702	4520883	3*12 SCREW WITH WASHER	PFT	ED01596U	PLUG CP-04BP5R0VU-TBL#2,3N
N703	NT00981	FBT HOLDER AP74 PS(HI=100%)	PFV	2902251	11P PLUG PIN
N704	4159425	3X16 TAPPING WITH WASHER SWRM	PFV	2902251	11P PLUG PIN
N711	NA03111	CHAS PWB BRKT AP5 CL1 SECC20/20E	PL	2903545	5P PLUG PIN WITH BASE

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PART NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	V1R	DE01324	CRT P16LFM00 RFA E
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	W811	2692464	CO-01C-N0R0-821FOCUS
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	W812	EK00062	WIRE (PROCESSED) FOR SCREEN
PP31	2661751	2P PLUG PIN WITH BASE	W841	2692463	CONNECTOR FOR FOCUS
PR	2903544	4P PLUG PIN WITH BASE	W842	EK00061	WIRE (PROCESSED)
PS1	2959058	PINPOST 9P PH	W871	2692463	CONNECTOR FOR FOCUS
PS2	2959059	PLUG PH PIN POST 10P	W872	EK00061	WIRE (PROCESSED)
PS3	2959055	CONNECTOR-6P(PH)	W901	2964863	2J-CONNECTOR
PSD1	ED01471U	PLUG 07BP1R2HUTWGP-A1	WJ01	9374575	UL CSA1007-24HP CODE GREEN
PSD1	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1	WJ01	9374575	UL CSA1007-24HP CODE GREEN
PSD2	ED01472U	PLUG 11BP1R2HUTWGP-A1	WJ01	9374575	UL CSA1007-24HP CODE GREEN
PSD2	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1	WJ02	9374575	UL CSA1007-24HP CODE GREEN
PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1	X001	2168831	CRYSTAL CSA12.0MTZ
PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1	X100	BP00771	OSXR032X121TA252E00
PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1	X501	2791501	CRYSTAL HC-49/U
PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1	X502	2168771	X'TAL CSB503F30
PSD5	ED01471U	PLUG 07BP1R2HUTWGP-A1	XS01	2786585	CRYSTAL RESONATOR 8.000MHZ
PSD5	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1	Z	9449553	TAPE-ADHESIVE W19 NITTO#223S(B PVC
PSI1	ED00575	CP-TAC-L18X-A1	Z01	9414017	SILICONE COMPOUND(G-746)
PSI1	ED00515	CP-TAC-L18P-A1	Z01B	9563404	SILICONE RUBBER (KE402W)
PSI2	ED00575	CP-TAC-L18X-A1	Z01G	9563404	SILICONE RUBBER (KE402W)
PSI2	ED00515	CP-TAC-L18P-A1	Z01R	9563404	SILICONE RUBBER (KE402W)
PST	2675286	PH CONNE. 7P	Z02B	9553958	ADHESIVE TAPE (PERMACEL P212 19W)
PSU1	ED00576	CP-TAC-L20X-A1	Z02G	9553958	ADHESIVE TAPE (PERMACEL P212 19W)
PSU1	ED00516	CP-TAC-L20P-A1	Z02R	9553958	ADHESIVE TAPE (PERMACEL P212 19W)
PSU2	ED00516	CP-TAC-L20P-A1	Z03B	9449506	SCOTCH TAPE NO.29 19MM
PTS	2663821	2P SUB MINI PLUG PIN	Z03G	9449506	SCOTCH TAPE NO.29 19MM
PVM1	ED00566	CP-TAC-L10X-A1	Z03R	9449506	SCOTCH TAPE NO.29 19MM
PVM1	ED00506	CP-TAC-L10P-A1	Z1	9414017	SILICONE COMPOUND(G-746)
PVM2	ED00566	CP-TAC-L10X-A1	Z1	9449598	NITTOH TAPE NO.188
PVM2	ED00506	CP-TAC-L10P-A1	Z201	9542102	STAPLE(MAX N0.10)
PVMC	2902262	PLUG PIN SUB MINI 3P	Z701	9449603	NITTOH TAPE #747
PY1	2675285	PIN POST (PH 6P)	Z701	9485158	HOT MELT (AX-1503C)
PY1	2959055	CONNECTOR-6P(PH)	Z710	9485158	HOT MELT (AX-1503C)
PY2	2902263	PLUG PIN SUB MINI 4P	Z905	9485158	HOT MELT (AX-1503C)
PY2	2902263	PLUG PIN SUB MINI 4P	ZH91	9451140	UL CSA TUBE AWG NO12 CLEAR
U002	HP00202	PINP UNIT KC-021	ZNS1	9414017	SILICONE COMPOUND(G-746)
U101	HC00311	TUNER UNIT V6-A30FT	ZNS2	9485158	HOT MELT (AX-1503C)
U102	2429691	FE TUNER V8-A68FT	ZT90A	H390062	SPECIAL CUSHION CHLOR
U301	HP00703	3DYCSEP UNIT KC-301S	ZT90B	H312132	PWB INSOLATOR
U401	GK00311	SP-05M C057PT502-10 (TWEETER LT) 53"			
U401	GK00491	SP-05CMM EAST5PH03A6 (TWEETER LT) 61"			
U402	GK00321	SP-12M C120RB501-10 (LEFT) 53"			
U402	GK00481	SP-12CMM EAST 12PL17A (LEFT) 61"			
U403	GK00311	SP-05M C057PT502-10 (TWEETER RT) 53"			
U403	GK00491	SP-05CMM EAST 5PH03A6 (TWEETER RT) 61"			
U404	GK00321	SP-12M C120RB501-10 (RIGHT) 53"			
U404	GK00481	SP-12CMM EAST 12PL17A (LEFT) 61"			
U405	GK00331	SP-10M C100RB5803-10 (CENTER LT) 53"			
U405	GK00501	SP-10CMM EAST 10P16A6 (CENTER LT) 61"			
U406	GK00331	SP-10M C100RB5803-10 (CENTER RT) 53"			
U406	GK00501	SP-10CMM EAST 10P16A6 (CENTER RT) 61"			
UFPK	AZ00003	FOCUS PACK CRX			
UKDG	CS00351	PRINTED WIRING BOARD (HC2131)			
V1B	DE01326	CRT P16LFM00 BMB E			
V1G	DE01325	CRT P16LFM00 HLA E			

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

PART NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
		EXPLODED VIEW PARTS LIST			
①	PH05725	CONTROL PANEL ASS'Y			
②	NAII701	LENS/CRT METAL			
③	KS00163	MIRROR (61")			
③	KS02021	MIRROR (53")			
④	33010308	BARRIER BOARD (53")			
④	33010309	BARRIER BOARD (61")			
⑤	QD04112	REAR COVER (61")			
⑤	QD03841	REAR COVER (53")			
⑥	55020069	FRONT DOOR ASS'Y			
⑦	3320061	BACK CENTER BAR (53")			
⑦	3320051	BACK CENTER BAR (61")			
⑧	H512246	LOWER REAR BOARD (53")			
⑧	H512249	LOWER REAR BOARD (61")			
⑨	PH06771	SPEAKER GRILL (53")			
⑨	PH06891	SPEAKER GRILL (61")			
⑩	NA11681	MIRROR METAL A			
⑪	NAI11691	MIRROR METAL B			
⑫	KR01161	SCREEN ASS'Y (61")			
⑫	KR01162	SCREEN ASS'Y (53")			
⑬	H311404	DECO FRAME PAINTED			
⑭	PH06981	TOP FRAME PAINTED (53")			
⑭	PH07021	TOP FRAME PAINTED (61")			
⑮	DE01324	CRT P16LFM00 RFA-E			
⑯	DE01325	CRT P16LFM00 HLA-E			
⑰	DE01326	CRT P16LFM00 BMB-E			
⑱	KQ00381	SBA-2LENS RG			
⑲	KQ00381	SBA-2LENS RG			
⑳	KQ00392	SBA-3LENS B			

NOTES: